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FEBRUARY 2025 VOL. 106 NO. 2

American Cinematographer

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Timothée Chalamet stars as Bob Dylan in *A Complete Unknown*, shot by Phedon Papamichael, ASC, GSC. (Image courtesy of Searchlight Pictures.)

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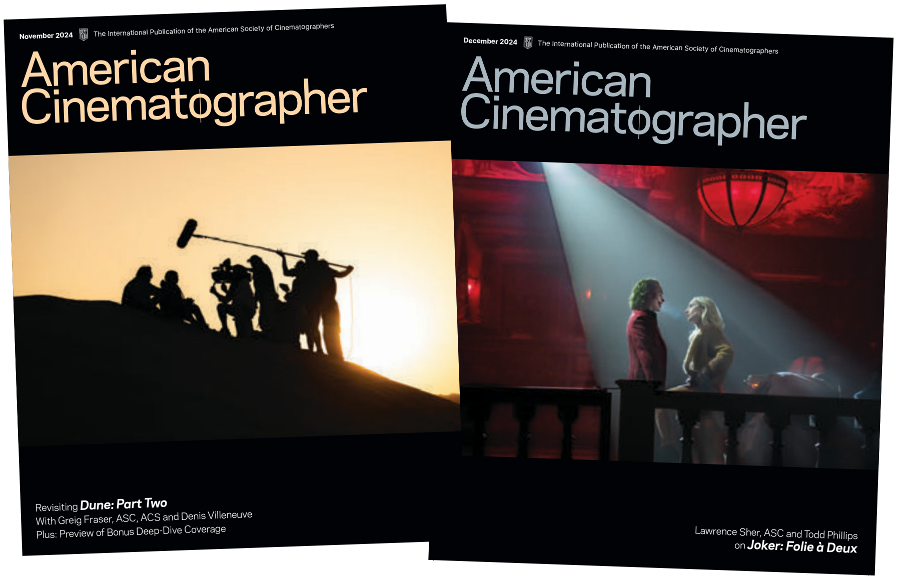
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Paul Newman in *The Verdict*.

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PORTRAIT BY JOHN SIMMONS, ASC.

This issue celebrates some of the great cinematographers who will be honored at the 39th annual ASC Awards in late February. (More will be saluted in our March issue.) The Society's Lifetime Achievement Award is being presented to the great Andrzej Bartkowiak, ASC (see profile on page 16). Many cinematographers from my generation who saw Andrzej's work in *The Verdict* feel that he changed the way we look at a scene. Director Sidney Lumet, lead actor Paul Newman and Andrzej developed a style of shooting and performing that favored fantastically expressive and dramatic wide shots — without a great deal of coverage. While this visual strategy was not necessarily new on its surface, the cinematography community had rarely seen an entire film presented as confidently and capably as *The Verdict*.

In that film, the way characters are composed within their surroundings conveys as much about them as the dialogue, and presenting them that way made the use of standard close-ups unnecessary. There are certainly close-ups in the film, but when they *are* used, they punctuate a story beat in a pure manner, because they are not diluted with needless tighter shots. This is a straightforward concept, but one that requires a fearless and focused approach that spans an entire movie. Looking at Andrzej's career, I'm not sure the word "fear" enters his working vocabulary all that often!

At a recent ASC Master Class taught by Robert Elswit, ASC, *The Verdict* was showcased as a major point of instruction. Robert broke down a scene where the camera was placed low in the corner of the office occupied by Newman's character, Boston lawyer Frank Galvin. The night interior appears to be lit by two table lamps placed along the far wall of the set, and the camera shows nearly the entire room. The scene is maybe four pages long and presents a one-sided telephone conversation performed by Newman; a subsequent dialogue exchange between Galvin and Jack Warden's character, Mickey Morrissey, who enters the room; and a minor panic attack as Galvin dreads a major story point that has transpired during the scene.

The class discussion involved how Lumet directed Newman's performance to play for this wide angle, and how Andrzej hid lights within the frame to extend the established light sources. Elswit then walked the students through a similar setup on the ASC Master Class set to further demonstrate the scene's nuanced visual treatment. While this tutorial was underway, Andrzej himself happened to walk into the class to serve as an ambassador for the students — and was surprised to see his work being shown as the foundation of a modern educational seminar. Needless to say, the students inundated Andrzej with questions, and he was delighted to help them understand his approach. Only at the ASC can such a fortuitous twist of fate occur!

People sometimes ask why honors are important to the film industry. To me, this story illustrates why we celebrate great work: It sets the bar for the younger generation of cinematographers, who can take the lessons passed along to them by mentors and go even further with newer technology. Films like *The Verdict* also show us how a well-told story can carry timeless weight and meaning for audiences. So, I thank and congratulate all of our ASC honorees for sharing their artistry and wisdom.

Best regards,

Shelly Johnson
ASC President

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Framing a Life for *Oh, Canada*

Cinematographer Andrew Wonder collaborates with mentor Paul Schrader on an intimate portrait of a dying filmmaker.

By Tara Jenkins

Andrew Wonder had just graduated from film school at New York University when he interviewed for an assistant job with director Paul Schrader, who is well known for his acerbic wit. Wonder recalls, "I had this amazing four-minute interview where he said, 'This is a s**t-and-ice-cream kind of job: If you shovel enough s**t, there might be a little bit of ice cream at the end.' I didn't think it would take half a lifetime to get to that ice cream."

Wonder felt an immediate affinity with his boss. "At that time, we were two artists on opposite sides of the same bell curve: No one was letting him make a movie, no one was letting me make a movie. We spent these years in the office … he was writing on a word processor, and I would take that material and put it into Final Draft."

Over time, the relationship deepened, and the two began collaborating in various ways across different projects. Along with 70 other filmmakers, they co-directed a short film — conceptualized by Wonder — for the 70th Venice Film Festival in 2013, which was shown during the event's opening night. Wonder also served as an associate producer and 2nd-unit director on the 2016 feature *Dog Eat Dog*, which Schrader directed. Last year, when Schrader brought the script for *Oh, Canada* to a casual dinner with Wonder, the cinematographer thought his mentor just wanted to discuss the story, which is based on Russell Banks' novel *Foregone*.

PHOTOS BY JEONG PARK. ALL IMAGES COURTESY OF KINO LORBER.

Opposite: As a young man, Leo Fife (Jacob Elordi) takes up documentary filmmaking. This page: While older and terminally ill, Fife (played in this era by Richard Gere) reflects on his past.

"Seeing Paul on the Page"

Wonder was immediately taken with the scale of Schrader's screenplay, which follows terminally ill documentarian Leo Fife (played by Richard Gere and, as a younger man, Jacob Elordi) as he reflects on his life and tries to come clean with his wife, Emma (Uma Thurman), about his past. "Two things really struck me," says Wonder. "Paul has always used metaphors to tell his stories: It's the taxi driver, the former guard, the drug dealer, the gigolo. But when I read this, I thought, 'Wow, I'm seeing Paul — more Paul than I ever have — on the page.' Russell Banks really gave him the vehicle. Then I saw the time periods, the scope of this journey, and I thought, 'This is a little out of Paul's usual wheelhouse. He makes stories about guys in rooms, not about guys' entire lives.'

"I started talking about aspect ratios and formats, black-and-white vs. color. Paul said, 'Well, maybe you should shoot the movie,' and I said, 'Well, maybe I should!' After all those years of doing whatever to help and keep his films going, I was going to get the chance to collaborate and build one with him. A lot of what I brought up at that meeting ended up in the film."

For Wonder, the heart of *Oh, Canada* was Gere, and the cinematographer attended makeup tests in prep to study the actor's face. "During the first test, I'm sitting there in the corner, and Richard looks at me and says, 'Paul's told me a lot about you. So, how are you going to shoot this?' And I told him my thesis: 'Richard, this is all about you and the performance you're creating. So, in every frame, I'm going to give you light and I'm going to give you shadow, and between those two, you can decide what you need in that moment. In every frame, I'm going to give you that range, and you can play with it like a stage.'"

Past and Present Palettes

Wonder eschewed the trope of making the present-day sequences look more modern than the past. "I really wanted this film to be personal, especially the present section. We are used to the present being widescreen, being modern, but I really wanted to make it feel sterile yet intimate. I thought the 1.5:1 aspect ratio kind of forced you to be with the faces, with people. If that camera wasn't going to move, let the characters create the movement."

Wonder shot the film on an Arri Alexa 35 to exploit the sensor's latitude, pairing it with his own "Wonder Speed" lenses, a set of uncoated Zeiss B Speeds rehoused by True Lens Services, for the present-day section.

"I felt like it was really important to shoot scenes spherically," he says. "If Richard was going to give his all, I wanted it to be as personal as possible. I thought using my lenses would allow me to give a piece of myself to it. The contrast, the lighting — I wanted it to feel like we are poring over these corners of life and finding these little moments in Richard's eyes."

For sequences set in the past, Wonder decided to use anamorphic lenses. "The past had a grander scale and was about a romantic moment in this man's life where there was so much possibility and choices left to make," he offers. "I thought the anamorphic aspect ratio would let us get lost in that world and its landscapes more while allowing me

Top: While facing his inevitable passing, Fife feels compelled to come clean with his wife, Emma (Uma Thurman), about his indiscretions. Above: Fife recalls an intimate moment with his second wife, Alicia (Kristine Froseth).

compositional opportunities that weren't possible with 1.5." With the help of Andy Shipsides at Arri Rental New York, he found Arri Alfa anamorphics. "They're pretty clean compared to a lot of [vintage] options out there," notes Wonder. "I tested so many vintage anamorphics and I hated how I couldn't see the person, just lens instead of performance. The Alfas took the edge off."

In many films structured to include the present and the past, Wonder adds that in addition to the present typically being presented in widescreen, "you think of the past as square. But in Paul's script, the past was where all the landscapes were — all the beauty of life, the long drives, the old towns. For me, anamorphic felt more nostalgic. If I were in my last moments of life in a hospital bed, staring at the 'drip drip' of the machines, I would probably remember those moments in the sunshine pretty vividly."

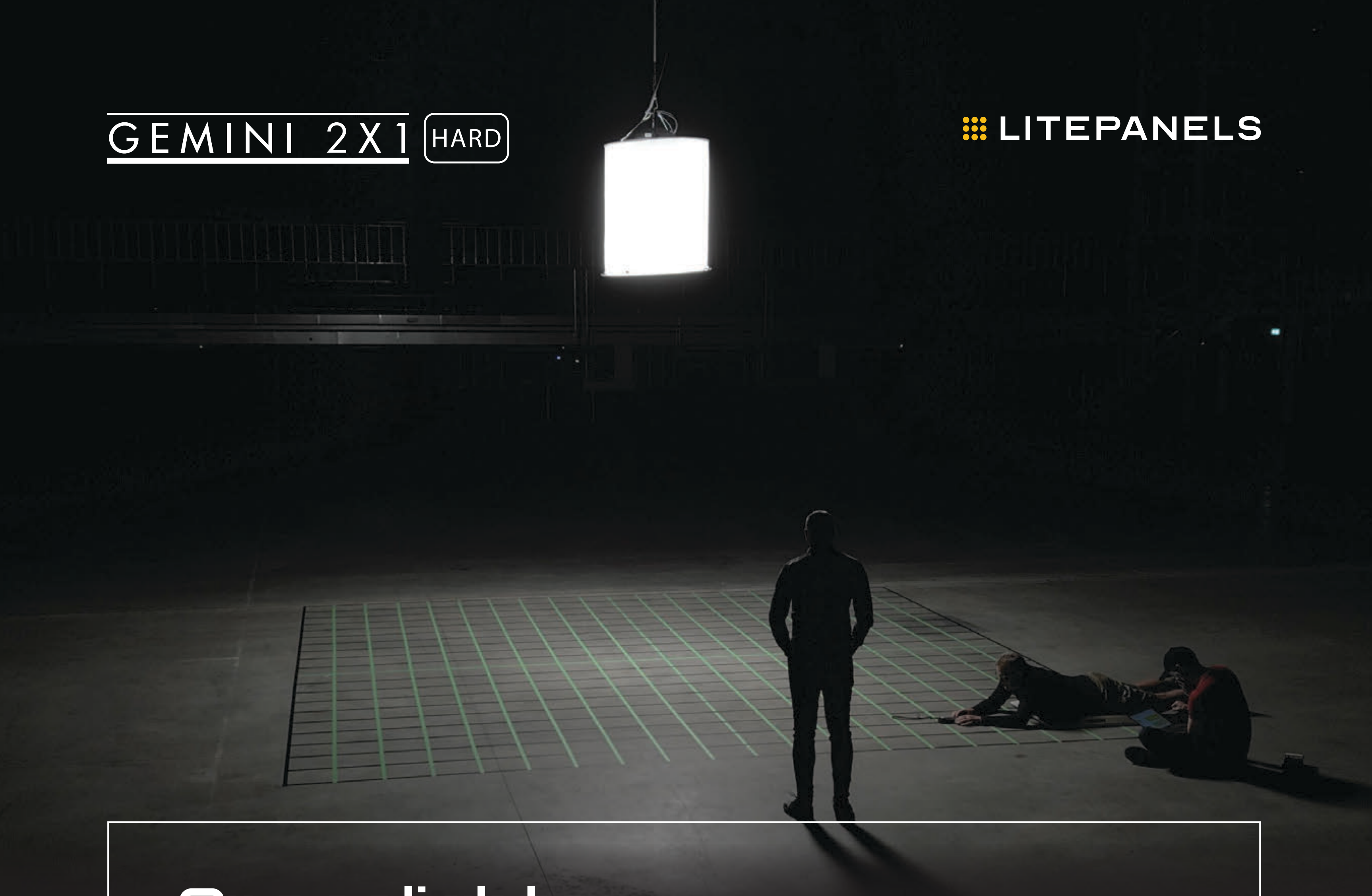
While much of the film takes place in these two timelines, there are also many memories scattered about. Wonder chose black-and-white for these moments "for both creative and practical reasons," he says. "This story is about a filmmaker's memories before death, and black-and-white could allow me to span all these different decades and allow me to play with Welles, with Bergman, with different uses of black-and-white, and really use the images and the moments to create something cinematic and emotional."

He adds, "I could also use the theatrical nature of black-and-white to allow contrast and makeup to dial back the age and detail in the actors' skin. And since our amazing production designer, Deb Jensen, wouldn't need to worry about color palette with black-and-white, we could focus on creating shapes and contrast, giving her a lot more flexibility within our 17-day schedule."

However, Wonder was not satisfied with the look of the black-and-white conversion on the Alexa 35. "The camera is so sharp, and it made my uncoated converted B Speeds sharper than I'd ever seen before. The look just never quite felt emotional to me. Andy [Shipsides] said, 'Ed Lachman [ASC] just used this Monochrome [Alexa] on *El Conde*. I think you need to test it.' He sent it over, and I plugged it into the monitor next to the Arri 35 with my LUT, and I thought, 'Andy is right.' I told Paul I thought I could do more if we shot in real black-and-white, but we would have to commit to it. He said he would die on that hill with me.

"I kept trying to find ways to use the black-and-white to push the story," he continues. "I went back to tricks that I'd learned in school, [like] going with the style of lighting, not being afraid of contrast, not being afraid of putting a Dedolight as an Obie right in front of the camera. When Leo is with his family in the '50s, it felt like deep focus and wide angles, weird angles. Later, in the 2000s, when he finds out he has cancer, it felt more like Bergman's *Shame*. It was about creating compositions and blocking that allowed me to 'stack' the actors in the same shot, giving them a chance to perform together in these intimate and personal mosaic moments."

To help keep the timeline and respective visual strategies clear for cast and crew, Wonder recalls, "I decided to grid the entire film onto one piece of paper and highlight the different visual styles. It became a color-coded chart that we gave every actor and every crewmember; it was



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Director Paul Schrader (center) peers over the shoulder of cinematographer Andrew Wonder on set. To their left is A-camera operator Katherine Castro.

the only way to keep track of it well enough to know those transitions were coming."

Fire, Attention and Fury

When conceptualizing the look of a film, Wonder prefers to be influenced by the world around him rather than other movies. In prep, he read through issues of *American Cinematographer* that featured interviews with Gordon Willis, ASC, "but I wasn't looking for how you toplight — I was looking for attitude. I really tried to apply that."

Wonder is also inspired by his mentors, who include the late Harris Savides, ASC as well as Schrader. "They are two of the great brains I've had the chance to interact with in my life, and what I've learned from them both is that cinema doesn't require technology — it requires fire and attention and fury, and being alive in those moments. We shot this whole film in 17 days. I love a short schedule. There is no time to think; you just have to react."

Part of Wonder's approach involved keeping camera moves simple. "I wanted to make it the way only humans could: no gimbals, no remote heads, nothing that required a technician. Just brains and brawn and muscle and sweat — dolly, handheld, sticks. That's cinema."

He made occasional exceptions in service to the story. "One of my favorite shots is our only Steadicam shot, when Jacob is working in the fields and looking into this Super 8 camera. [Steadicam operator] Lizardo Reyes Jr. was also our dolly grip. It was rainy and muddy, and it was something cinematic that could only be caught in that moment. My first thought in choosing Steadicam was practical, to help us deal with the muddy field and how fast we had to work, but then I realized I could use the Steadicam's floaty nature to accentuate this moment when Leo first becomes a filmmaker."

For an emotional scene involving Fife and his mother-in-law from his first marriage, Wonder operated handheld, something he reserved for only a few select scenes in the film. "My typical tool is a handheld camera — it's how I usually find emotion in scenes — but being with Paul really restricted that. I knew he wasn't going to want to move the camera in the same way. It forced me to focus on blocking, creating shapes with bodies and lines and movements. I wanted to save my handheld for a moment, and in this moment with Jacob, the boldest thing we could do was to let him just act. As this character's life falls apart, we use the tools of cinema to do something vérité, something different. I had a +1 diopter on the lens, so I was getting a foot or even closer to him."

Film Within a Film

An interesting lighting challenge came from the film-within-the-film conceit, in which Fife's former students, Malcolm (Michael Imperioli)

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and Diana (Victoria Hill), interview him about his life — and the entire interview setup is visible in wider shots. “It was interesting talking to gaffer John Raugalis about set decoration,” Wonder recalls. “We had a tricky time together finding a way to light the scene and make it look good. Once we chose the Fiilex Q10 as our hero key and placed it in shot at 4,500 Kelvin, I started looking at the practicals and window light to discover what 3,200/5,600 felt like naturally. Using Astera tubes and tungsten sources, we would enhance this to create bigger transitions between warm and cool tones as the interview progressed. We were still missing a few touches of movie lights, so we used a LiteMat 1 to key Michael at his Interrotron, and we added LED ribbon on the interview crew’s monitors to turn them into sources.”

The interview sequences, which provide a throughline in the narrative, were all shot in a block. Wonder leaned into shooting them like a play. “I wanted to feel the transitions. As a filmmaker, I’m very interested in public vs. private space, and how people change when they’re in public. How are we different when the cameras are rolling? I thought it would be interesting if the spotlight was kind of ghostly, like the room was being lit by the bounce off Richard. Everyone is stuck in his aura, whether they want to be or not. But when his life fades, the room comes up to this gold light that wraps you in.”

To achieve the transition, Wonder colored Gere’s key interview light closer to 4,500-5,000K to make it stand out against the daylight-balanced lights. When the Fiilex unit lighting the interview set wasn’t in frame, it was diffused. Much of the molding of the light was achieved with flexible Astera lights in DOPchoice soft boxes that could be moved around the set easily.

In the present-day scenes, Wonder was also focused on lighting Thurman “to make her radiant, but also to look like the age she is, the age the character is. It wasn’t about creating a falsehood; there is beauty in how she is now. A big part of it was placing her in the interview space so she was lit by the chandelier, augmented by a single Astera tube positioned between the arms of the chandelier by Raugalis and taped in place with J-Lar by key grip Garrett Boehling. I also created a package of special diffusion filters — certain strengths of vintage Harrison Low Cons and Double Fogs that we only used on her. I wanted her to subtly glow.”

Wonder confers with 1st AC John Fitzpatrick on set (top) while preparing to shoot an airport scene featuring Elordi.

Wonder credits his crew for helping him to achieve the film’s intricate visual landscape so quickly. “You don’t make a film in 17 days that spans decades without really great people. The question every day was, ‘What’s the most audacious thing we can do?’” ◯

Andrzej Bartkowiak, ASC: When Prep Met Opportunity

The ASC Lifetime Achievement Award honoree counts himself grateful for a career that continues to thrive.

By Jon Silberg

Andrzej Bartkowiak, ASC, recipient of the Society's 2025 Lifetime Achievement Award, has shot an array of genres and styles for a "Who's Who" of directors — among them Sidney Lumet, Barbra Streisand, Taylor Hackford, James L. Brooks, John Huston and Roger Donaldson.

While many directors of photography end up typecast after their first major success, he has glided smoothly from legal thrillers (*Prince of the City*, *The Verdict*) to character-based dramas (*Terms of Endearment, The Mirror Has Two Faces*) to comedy (*Prizzi's Honor*, *Twins*) to high-octane action (*Speed*, *Dante's Peak*) to stories that are not easy to classify (*Falling Down*, *The Devil's Advocate*). And that doesn't even touch on the 2,000-plus commercials he has shot, many of which are standout examples of the craft.

Bartkowiak was contacted by ASC President Shelly Johnson with the news of his award — to be presented at a ceremony on Feb. 23 — and the honoree was both appreciative and surprised the Society is recognizing him this way. There's also humility in that he credits a lot of his success to chance. "I believe the old saying that 50 percent of success is luck. There could be plenty of people with more talent who never got a break. You've got to be good, but if you don't get the opportunity, people never know it."

Bartkowiak's future in the American film industry was certainly not a given when he was growing up in Łódź, Poland. He was attracted to creative endeavors — he played in a rock band, wrote for his school newspaper, and intended to study painting at the Kraków Academy of Fine Arts — but one day his interests came into sharp focus when he visited a neighbor. He recalls, "The midwife who delivered me lived a few houses away, and her son was attending the Łódź Film School. She had blown-up pictures from various movies and a camera on a tripod in her house. That's really what made me think about film as a combination of everything I was interested in all at once — music, story and pictures! And that prodded me to want to attend the film school."

Total Immersion

Upon enrolling in the prestigious Łódź institution, he soaked up important movies from all over the world — adding to his established background in studies of painting, sculpture, writing and photography — with an eye to developing a real understanding of the visual arts and an appreciation of master practitioners. This forever informed the way he thought about cinematography, and occasionally served to enhance communication with collaborators. For example, Lumet referenced Caravaggio's use of chiaroscuro as a starting point for discussing *The Verdict*. Hackford brought up the hues found in much of Goya's work during prep for *The Devil's Advocate*. Being steeped in classic works, he says, offers an invaluable foundation for any artist. "Rather than always reinventing the wheel, you can make it better."

An enormous part of his education at Łódź consisted of making films — not just discussing them — and the school provided resources. Bartkowiak notes, "It's government funded. If you need pyrotechnics, a lot of trucks or even an army, you get it. We shot on the same stages that major filmmakers from the country used. The school hired professional grips, whatever you needed, and it was all completely paid for."

Early Days in America

A documentary project soon took Bartkowiak to Mexico, and then, eventually to Mamaroneck, New York, where he worked painting houses and doing other odd jobs. A gig driving for a diplomat brought him to the attention of Polish actress Elżbieta Czyżewska, who was married to *New*

Opposite: Andrzej Bartkowiak, ASC served as director on the feature *Cradle 2 the Grave*, shot by Daryn Okada, ASC. This page: The ASC Lifetime Achievement Award honoree — pictured here at Chez Jay in Santa Monica, California — was accepted into the Society on September 1, 1995, with letters of recommendation from members Jan De Bont, Sol Negrin, Gordon Willis and Richard Edlund.

EXIT
BE PREPARED TO SHOW I.D.
DUTCHES
56
COUNTY

IMAGE ON OPPOSITE PAGE COURTESY OF WARNER BROS. / CINEMATIC COLLECTION / ALAMY.
PORTRAIT ON THIS PAGE BY JACEK LASKUS, ASC, PSC / COURTESY OF THE ASC.

TOP IMAGE COURTESY OF THE ASC ARCHIVE. BOTTOM IMAGE COURTESY OF ANDRZEJ BARTKOWIAK, ASC.

Top: With director/star Barbra Streisand on the set of *The Mirror Has Two Faces*. Above: With director John Huston during the production of *Prizzi's Honor*.

York Times reporter and author David Halberstam (*The Best and the Brightest*). The couple took an interest in Bartkowiak, and soon he was living with them and spending time with other members of the American literati, including Kurt Vonnegut and Gay Talese. "David taught me how to be an American," Bartkowiak declares. "He co-signed for my first American Express card and showed me how to build credit."

Bartkowiak was soon working on commercials crews after being given a major break by director and producer Lear Levin, and he quickly moved up the ladder to shoot and sometimes direct them. Over the next 15 years, he served as cinematographer or director/cinematographer on a huge number of spots for such clients as Chrysler, IBM, Coca-Cola, Pepsi and American Express. He landed his first feature, Ivan Nagy's *Deadly Hero*, in 1975, starring Don Murray, James Earl Jones and newcomer Treat Williams. The project didn't quite launch his Hollywood career, Bartkowiak recalls, but "it gave me confidence — and it gave other people confidence in me.

TOP IMAGE COURTESY OF JENNY LUMET. BOTTOM IMAGE COURTESY OF ALBUM / ALAMY.

Top: With director Sidney Lumet. Above: With actor Kristin Kreuk on *Street Fighter: The Legend of Chun-Li*, directed by Bartkowiak and shot by Geoff Boyle, NSC.

Among them were filmmaking partners Ismail Merchant and James Ivory, who hired Bartkowiak to shoot the short film *The 5:48* (1979) for the PBS miniseries *3 by Cheever,* starring Laurence Luckinbill and Mary Beth Hurt. "It's a good-looking show," the cinematographer says. "I was doing things that not many people were doing in those days." He notes that the "monumental invention" of the lightweight Panavision Panaflex camera made handheld work much less cumbersome, and he took advantage of this, incorporating a lot of handheld work into the project.

Lumet Calls

Months after wrapping that job, Bartkowiak brought his grandparents over from Poland and took them sailing around the Virgin Islands. Upon checking his answering service from the dock, he learned that producer Burt

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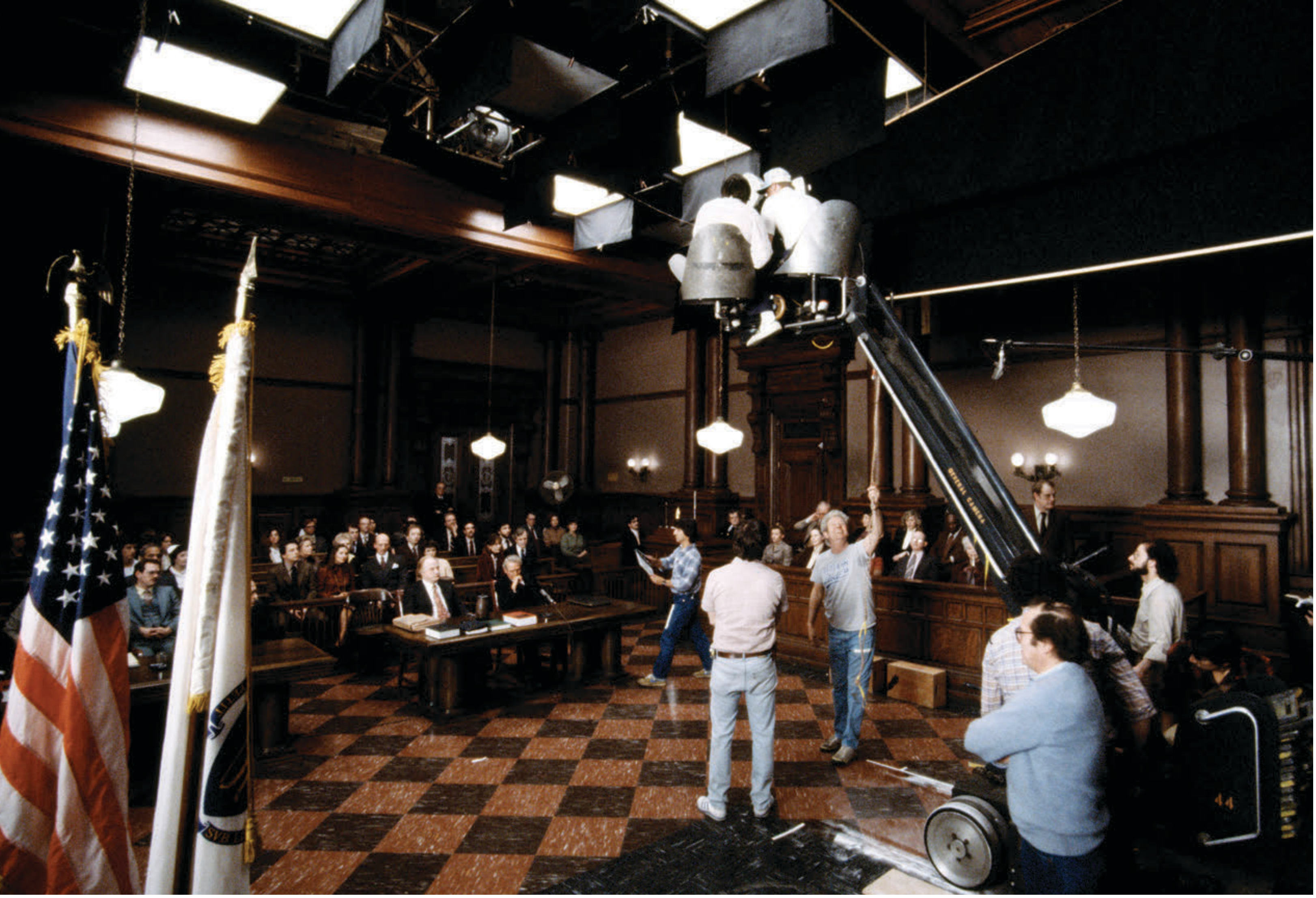

IMAGE COURTESY OF 20TH CENTURY FOX / TCD / PROD.DB / ALAMY.

Harris, one of Lumet's frequent collaborators, was trying to reach him on the director's behalf. Apologizing to his guests, Bartkowiak grabbed the next flight to New York.

Lumet, it turned out, had been quite impressed with the cinematographer's use of day-for-night photography on *The 5:48*, and he was looking for a cinematographer for his upcoming police drama *Prince of the City*.

In the photochemical days, before attributes such as color, saturation and contrast could be fine-tuned individually in post, good day-for-night work was particularly exacting, requiring a well-thought-out use of NDs and grads and underexposing the negative to within an inch of its life. It was often done poorly, and Lumet took notice of the quality of Bartkowiak's work with that technique.

After a short meeting, Lumet hired Bartkowiak, and the cinematographer would remain a key collaborator over the course of 10 more features. "Sidney was a genius — an enormous amount of what I know about directing, I learned from him," says Bartkowiak, whose credits in the directorial arena include the features *Doom* and *Romeo Must Die*.

Lumet was known as one of the few major film directors who insisted on rehearsing, usually for at least three weeks, so that actors and department heads could work out a lot of what would otherwise be done during shooting. "We prepped so much on his films that we usually finished under budget and ahead of schedule," Bartkowiak recalls. He adds with a laugh, "Everybody called him Pac-Man," gobbling up the day's work.

Bartkowiak became accustomed to preplanning light placement and working with three lighting crews — additional lighting techs to pre-rig and then a third to strike. When shooting, Lumet wanted all the walls to fly, ideally vertically, so they could move out of the way with maximum efficiency. The work zipped along, and Bartkowiak's crew might be given less than 10 minutes to turn around for a reverse shot.

"I really mastered lighting that way, which later helped me to shoot with multiple cameras," Bartkowiak says. He is perfectly comfortable shooting with two, three or more cameras, and he says he has even acclimated some "single-camera directors" to covering scenes with multiple cameras. "You can have flawless cuts where everything matches perfectly."

Working with Lumet also taught Bartkowiak the value of rigorous

This page and opposite: The closing argument delivered by Frank Galvin (Paul Newman) in Lumet's *The Verdict* was captured in a several-minute single take designed to depict "one lone man against the system," says Bartkowiak, pictured above in the crane seat (with back to photographer's camera). Lumet is pictured down below (in blue sweater). "Sidney never used zooms — everything was primes and push-ins. We used a crane instead of a dolly here because the camera had to go high and low and push into a close-up. Sidney would always do just one take with a second take for backup, but because the shot was so complex, it was the one time in the movie where we didn't shoot a second take." He adds with a laugh, "So, of course, this was the *only* shot on the whole show where focus was soft on Paul's eyes. It was shot at 2.8 with a 75mm lens, so the depth of field was minimal. Sidney was very upset, but he ended up preferring Paul's performance when we reshot the next day. Paul nailed it on the second take."

IMAGES FROM *THE VERDICT* (20TH CENTURY-FOX).

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From top: Christopher Reeve (left) and Michael Caine in Lumet's *Deathtrap*; Shirley MacLaine (left) and Debra Winger in James L. Brooks' *Terms of Endearment*; Treat Williams in Lumet's *Prince of the City*.

TOP IMAGE COURTESY OF MOVIESTORE COLLECTION LTD / ALAMY. MIDDLE IMAGE COURTESY OF ALBUM / ALAMY. BOTTOM IMAGE COURTESY OF PHOTO 12 / ALAMY.

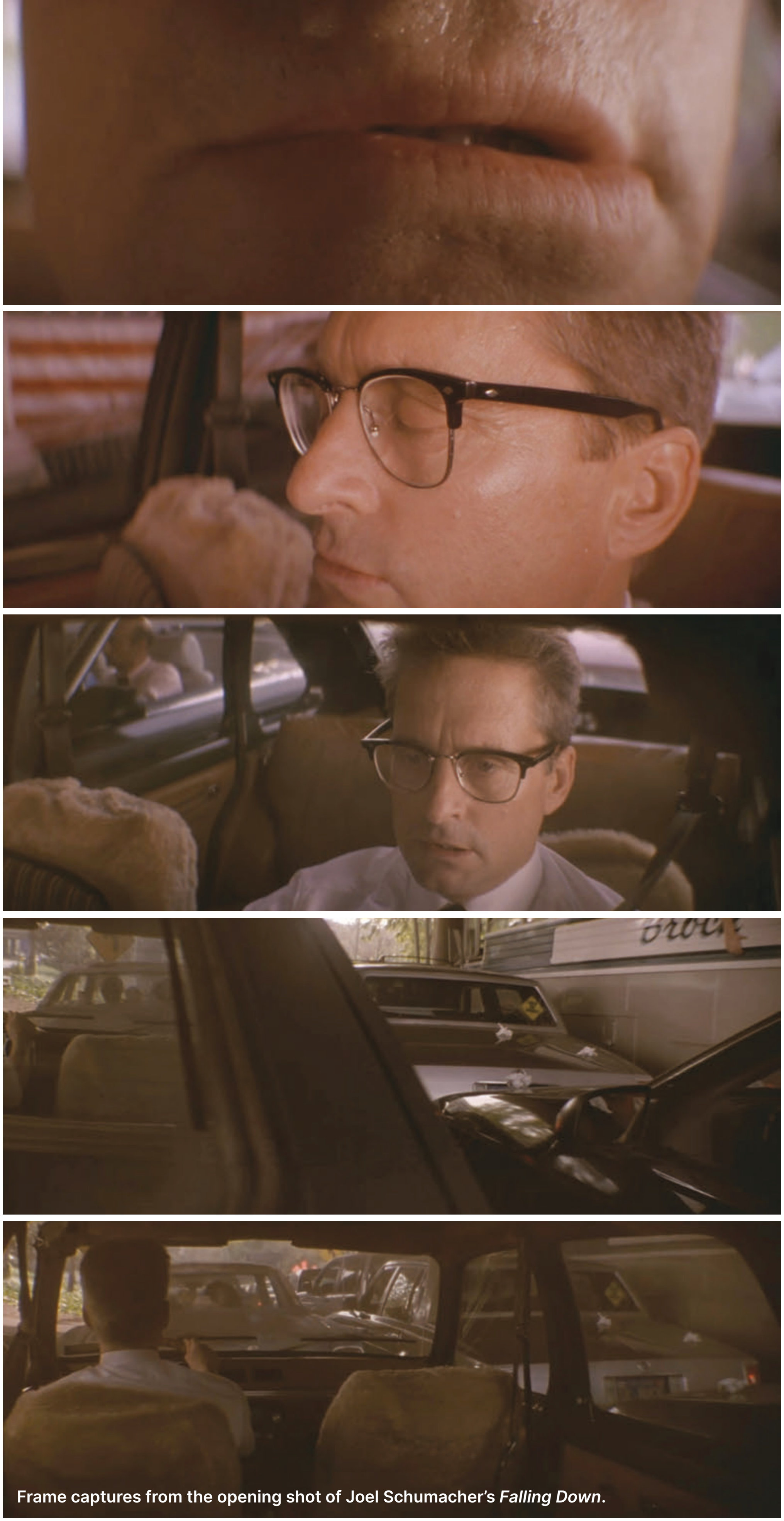
testing. He thoroughly experimented with every technique he would use on an upcoming project beforehand, far beyond the traditional hair and makeup tests. He later applied this approach to some of his most expansive studio films. "I've shot 150,000 feet of tests on some jobs. Whole movies have been shot with less film!"

Bartkowiak notes that a strong working relationship with the production designer is critical to successful visual storytelling, and he credits *Prince of the City* production designer Tony Walton for his contributions to that film. "Sidney wanted the audience to feel that the whole world is closing in on Treat Williams' character. The idea was to avoid seeing the sky in exteriors. [Scouting with Walton,] we found locations throughout New York where we could shoot without having sky in the frame. Then, for earlier parts of the story, we'd shoot a lot of masters tight with a 75mm lens to help isolate his character. As the situation closes in, we'd start using wider lenses and move even closer to the character. It helps you feel what he's feeling, but not in an obvious way. I hate obvious! I never want to do anything that the audience will notice, because that takes them out of the story."

Distinctive Dramas

While continuing his collaboration with Lumet on *Deathtrap*, *The Verdict*, *Daniel*, *Garbo Talks*, *Power*, *The Morning After*, *Family Business*, *Q&A*, *A Stranger Among Us* and *Guilty as Sin*, Bartkowiak branched out to shoot other films, including James L. Brooks' domestic drama *Terms of Endearment*. The story delves into the complex relationship between a Texas widow, Aurora (Shirley MacLaine), and her daughter, Emma (Debra Winger), as well as the mother's late-in-life romance with a former astronaut (Jack Nicholson).

The production was set to shoot on practical locations in Houston,



Frame captures from the opening shot of Joel Schumacher's *Falling Down*.

IMAGES FROM *FALLING DOWN* (WARNER BROS.).

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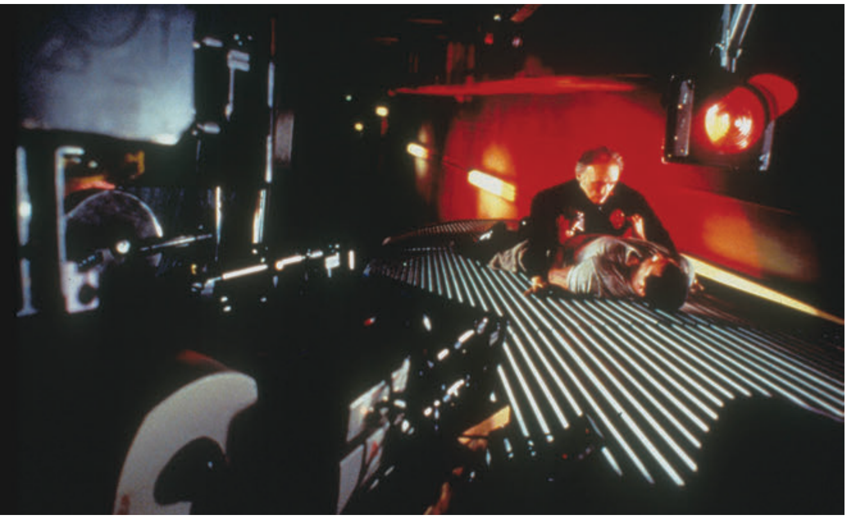

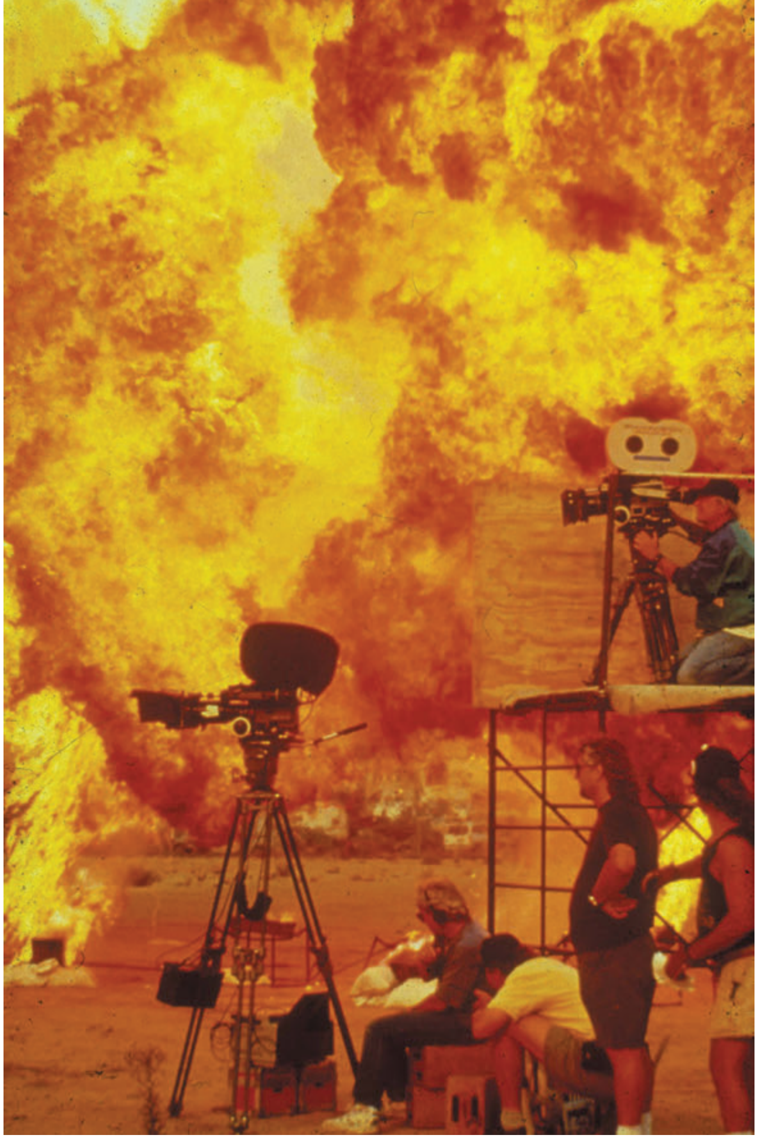

Top left: In Jan De Bont's *Speed*, police officer Jack Traven (Keanu Reeves) goes underneath a moving bus to attempt to diffuse a bomb. Bottom left: Dennis Hopper and Reeves perform in a scene set atop an L.A. Metro train. Right: The *Speed* crew films an inferno.

TOP LEFT IMAGE FROM *SPEED* (20TH CENTURY FOX). BOTTOM LEFT AND RIGHT IMAGES COURTESY OF MOVIESTORE COLLECTION LTD. / ALAMY.

Texas, where the story takes place, and Bartkowiak immediately recognized that the location for Aurora's house, where many scenes are set, would not facilitate shooting with focal lengths that would flatter the actors: 50mm, 75mm and even 100mm. He discussed his concerns with production designer Polly Platt, and she subsequently knocked out the back wall of the house and added 50' platform extensions on both floors of the structure. A dancefloor allowed the camera crew to place dollies and shoot with longer lenses. "Many scenes look the way they do because of that," he says. "Polly understood why I asked for this, and she's the one who really made it happen."

In Joel Schumacher's *Falling Down*, which brought Bartkowiak a Camerimage Golden Frog nomination, a Los Angeles defense-contractor worker (Michael Douglas) embarks on a murderous frenzy after a series of personal and professional setbacks. From the opening shot, the visuals situate his world somewhere between the actual city and a veritable hellscape: Sweaty and anxious, he sits in his car under a freeway underpass, trapped in a monster traffic jam. Bartkowiak actually suggested an approach to the shot in his interview with Schumacher. "I'm European, and I love great European films," he says, noting the shot was inspired by the classic opening of Fellini's *8½*, in which Guido (Marcello Mastroianni) is trapped in a stifling traffic jam. He pitched his vision to Schumacher in minute detail, describing a single take that starts almost inside Douglas' mouth and pulls back, out of the car, to show the surrounding cars at a standstill and then comes around to the back of Douglas' car, ending on the back of his head. (See frame captures, page 23.) "That's what got me the job," Bartkowiak recalls. "Then, of course, we had to figure out how to actually do it!"

The solution, devised largely by key grip Chris Centrella, would involve a snorkel lens, a Super Technocrane mounted onto a Titan Crane, a breakaway car roof, and a large bank of arc lights bounced from a low angle inside the underpass to bring the light level up to match the day exterior so he could shoot at T16. Additionally, throughout the film, Bartkowiak had propane heaters positioned under the lens to provide waves of heat, which he could adjust to enhance the overall sense of oppressive sweltering temperature. With these subtle distortions and near-constant use of double 85 filters, Bartkowiak's cinematography memorably conveys the character's addled state of mind.

Nonstop Action

The thriller *Speed* was the directorial debut of Jan De Bont, ASC, who entrusted Bartkowiak with cinematography duties on what would become an enormous box-office hit. "Jan was really the master of shooting with multiple cameras," Bartkowiak says, "so thank God I had the experience I did lighting in multiple directions for Sidney! It prepared me to be able to shoot the way Jan wanted." Perhaps it's no surprise that someone who'd race to the set at 140 mph on his motorcycle would be attracted to the big Hollywood action films of the 1990s, before extensive CGI became the norm. "I loved it as a person — but also, I believe the results are better," Bartkowiak says.

In one scene in *Speed*, actor Keanu Reeves slides under a speeding bus

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RIGHT IMAGES FROM *DANTE'S PEAK* (UNIVERSAL PICTURES).

Left: Prepping for a shot on *Dante's Peak*. Seated — in white and blue, respectively — are Bartkowiak and director Roger Donaldson. Right: The *Dante's Peak* protagonists escape a burning cabin and surrounding forest.

atop a simple car dolly. "Keanu really was underneath the bus, [which was driving] on an unused airport runway, and we strapped multiple camera operators underneath the bus to capture the action. Keanu was secured to the dolly, and we took a lot of precautions, of course, but it was still dangerous, and it was impossible to know if the dolly would suddenly go over debris or something. And you see that on his face! It's not about the stunt itself; it's about the performance."

Donaldson's volcano-centered disaster film *Dante's Peak* featured major set pieces involving more than 27 cameras, with 1st, 2nd and 3rd units all working in tandem. An epic eruption scene featuring lead actors Pierce Brosnan and Linda Hamilton was shot in Lancaster, California, where the production built a replica of a cabin they had shot on location in Wallace, Idaho, complete with an artificial forest and lake. "It was a copy of the Idaho cabin, but it was all real, all built on location," Bartkowiak recalls. "We were dropping magnesium bombs near the actors. Our trees were actually made of steel that was perforated with slits so we could pump them full of liquid propane to make it look like they're on fire, with the piping also set up into the street to make it catch fire. We put the actors behind Plexiglas to protect them, but, eventually, it was too hot for them to continue. Pierce and Linda were very brave. The crew had hazmat suits and respirators, but the actors, of course, didn't. So much of their performance is about real reactions to what was going on. I don't think you can fake that in a studio."

Such practical techniques require a lot of prep, he admits, but "when you see it in dailies, all that hard work pays off."

A Seasoned Perspective

Since producer Joel Silver offered Bartkowiak the opportunity to helm the 2000 action thriller *Romeo Must Die*, Bartkowiak has focused on directing. The producer had faith in the cinematographer after observing him at work on his films *Family Business* and *Lethal Weapon 4*.

But one aspect of Bartkowiak's work behind the camera remains the same: He staunchly believes filmmakers are only as good as their crews. "Anybody who says, 'I made this movie myself,' is full of s---. You depend on a crew every moment of every day."

He credits gaffers Bobby V, Billy Ward, Dusty Wallace and Bobby Smith, and key grips Tom Cooney, Robert Ward and Billy Miller with teaching him an enormous amount about cinematography. "Unless someone retires or is not with us anymore, I don't believe in change," Bartkowiak says. "When you find good crewmembers, you keep them with you forever. I know there are some people who always like to try someone new. Sidney and I were never like that. As he used to say, 'If it ain't broke, don't fix it.'"

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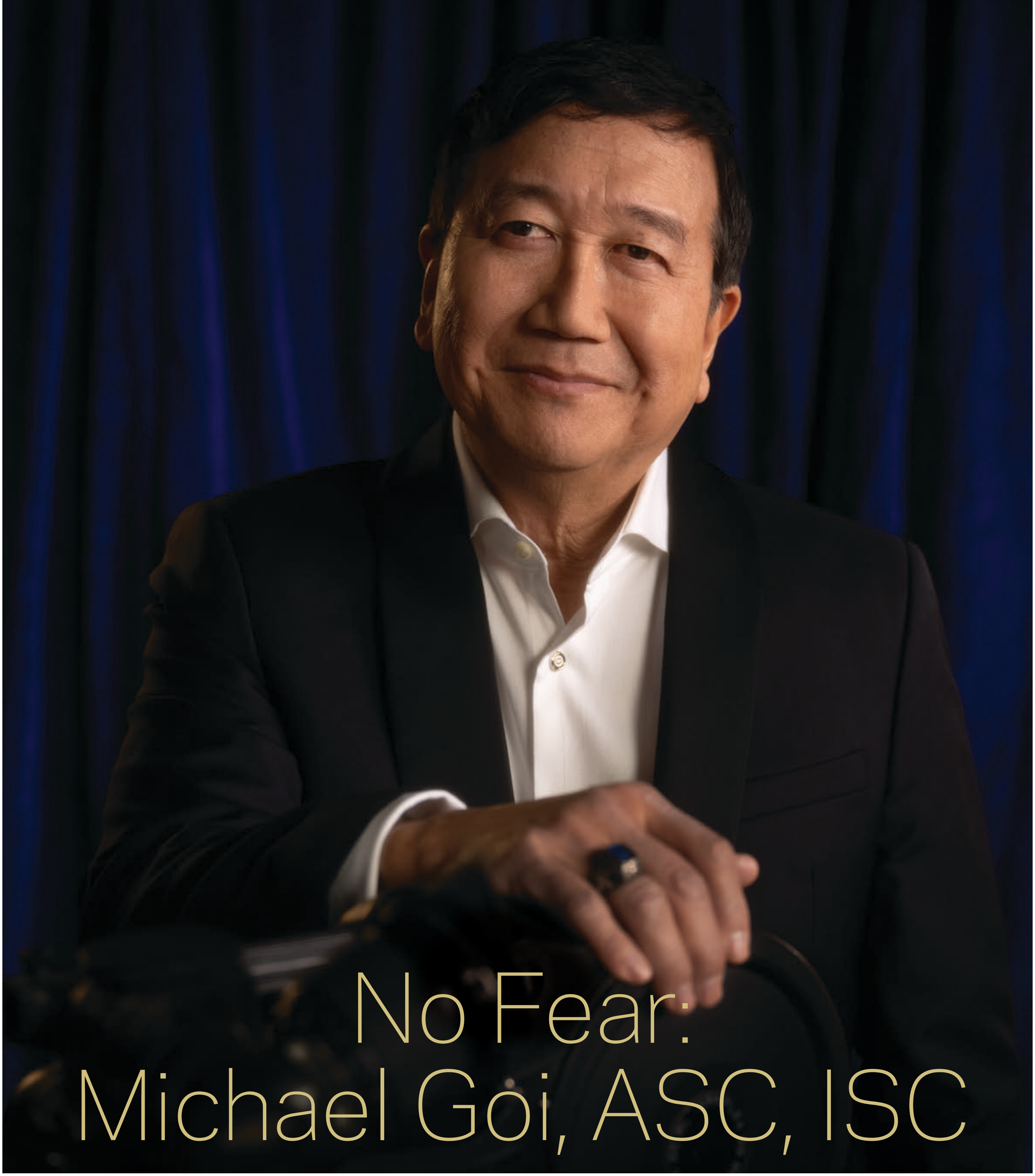


PORTRAIT BY JACEK LASKUS, ASC, PSC, COURTESY OF THE ASC.

No Fear: Michael Goi, ASC, ISC

The tireless professional always seeking his next creative challenge accepts the Society's Career Achievement in Television Award.

By Iain Marcks

The mantra "Don't be afraid to fail" has served Michael Goi, ASC, ISC well in his work behind the camera on such shows as *Avatar: The Last Airbender* (*AC* July '24), *American Horror Story*, *Web Therapy* and *Glee*. "That's one of the first, most important things I learned about filmmaking," says the recipient of the ASC's 2025 Career Achievement in Television Award. The honor will be presented during the ASC's annual gala on Feb. 23.

Experimental Spirit

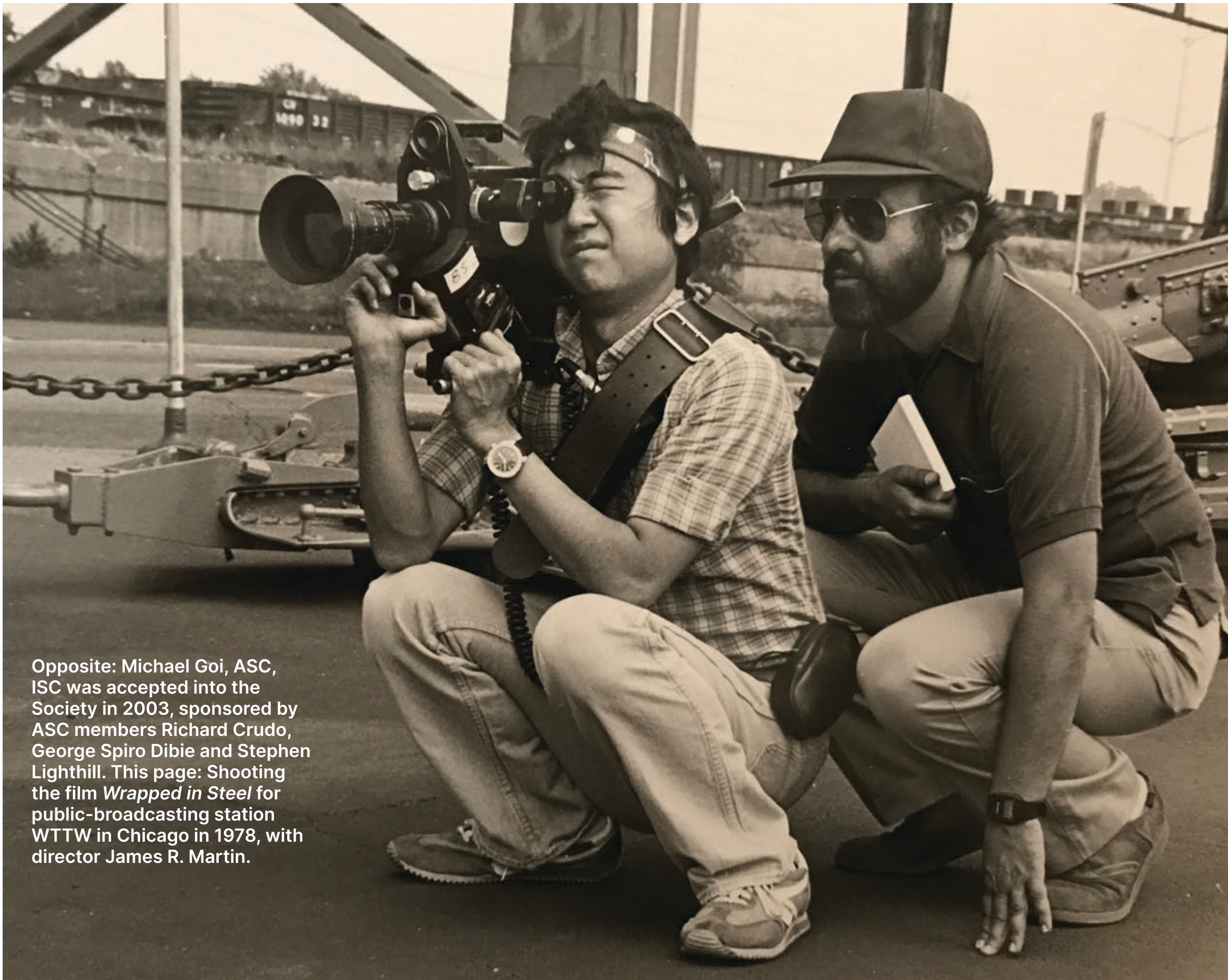
As a student cinematographer at Columbia College in Chicago, his hometown, Goi shot more than 120 student films, and failing repeatedly in these endeavors dispelled his fear of trying new things. "Now, every job I take, I try to do something I've never done before," he says. "I tell my students and mentees, 'Throw away your first idea,' because it's likely something they've done before and feel safe with. That habit stifles creativity."

His spirit of experimentation is inspired to a great extent by the earliest silent films, particularly those of stage magician George Méliès. "We're just using better tools now," says Goi, whose interest in stage magic and movies developed together. "I wanted to be a filmmaker since I was 8, making 8mm movies. By high school, I'd saved up for a 16mm Bolex camera and was making more sophisticated films around the same time I got into magic."

"The License to Do Anything"

At 19, Goi was shooting spec commercials and working for a local Spanish television station. Then he found work as a production assistant on *The Blues Brothers*, "which was a chaotic first exposure to large-scale feature filmmaking. I naïvely thought, 'If this is what Hollywood filmmaking is, maybe I can do it from here.' So, I started shooting low-budget feature films, mostly horror."

Goi's interest in that genre goes back to one of his earliest movie memories: seeing the trailer for Mario Bava's phantasmagoric giallo *Blood and Black Lace*. "It was at least a decade before I finally saw the film itself, but the trailer left a vivid impression and ingrained in me an appreciation for the visual aspects of horror — the shadows, the mystery, the anticipation, and these visceral, violent images coming at you in rapid succession. Horror films showed me that as a creator, you had the license to do anything."


IMAGES COURTESY OF MICHAEL GOI, ASC, ISC / THE ASC ARCHIVE.

Opposite: Michael Goi, ASC, ISC was accepted into the Society in 2003, sponsored by ASC members Richard Crudo, George Spiro Dibie and Stephen Lighthill. This page: Shooting the film *Wrapped in Steel* for public-broadcasting station WTTW in Chicago in 1978, with director James R. Martin.

Above: Goi directs cinematographer James Chressanthis, ASC, GSC for an episode of *American Horror Story*'s fourth season, *Freak Show*. Opposite: Directing and shooting an episode of the series' fifth season, *Hotel*, starring Lady Gaga.

Later, it was Mike Nichols' *The Graduate*, shot by Robert Surtees, ASC (*AC* Feb. '68), that showed Goi the power of cinematography to manifest a character's thoughts and feelings. "In horror, that approach means putting the audience inside a person's terrifying experience. It's the same approach I use in everything, actually. People ask, 'What's the difference between shooting *Glee* and shooting *American Horror Story*?' There's none. I get inside the characters' heads and depict their world visually."

From Chicago to L.A.

Goi shot his first feature, *Camper Stamper* (aka *Moon Stalker*), in 16mm over 12 days on a property near Sparks, Nevada. His first Chicago-based feature was the romantic drama *Sam and Sarah*. Around that time, he also co-wrote and shot the low-budget action film *Chains*. One of the last projects he shot before moving to Los Angeles was *Hellmaster*, in Detroit. "I realized I'd always be the third or fourth cinematographer hired on a film coming to Chicago. I wanted to be the lead cinematographer, and to do that, I needed to be in Los Angeles, where I could take meetings and build relationships."

He moved to L.A. during a recession; little work was available, and many small film companies had recently gone bankrupt. At interviews, he found himself competing against ASC cinematographers, "so I knew I wasn't going to get the job." After six lean months, he was hired as a grip on a low-budget martial-arts feature filming in Las Vegas. He had to pay for his own motel, which ate up his entire salary, "but at least I was on set. I brought my still cameras everywhere … [and] the producers noticed and asked if I'd take promotional shots of the action stars. Then they asked if I could operate a film camera. By that point, I'd shot more than 200 commercials, six features and PBS documentaries. They put me on the D camera for a big stunt, and the footage turned out well, so they promoted me to 2nd-unit DP, and then, on their next two low-budget action films, to principal DP."

At the same time, a Chicago connection put Goi in touch with Indigo Productions, which was creating content for Playboy TV. Because the same crew worked on all Indigo projects, it took two years for the contact to pay off, but it did: Indigo hired Goi for a 10-day shoot when their regular cinematographer wasn't available. "They liked my work, and after that, I became their regular shooter, which led to work with MRG Entertainment, which produced erotica for Cinemax and Showtime," recalls Goi. "Shooting all those shows taught me a lot about how to light women beautifully and quickly, because we'd shoot a half-hour show in one 12-hour day, 75-95 setups with two 16mm cameras, covering eight sets."

Embracing Opportunity

Throughout the 1990s, Goi continued working on urban dramas and martial-arts films, which rose and fell in popularity. "I always had work because I'd built relationships with different companies," he says. Eventually, he started getting hired onto more prestigious projects. "One of those was *The Fixer*, for Showtime, starring Jon Voight and directed by Charlie Carner, a college friend. That project earned me an ASC Award

nomination [*AC* May ’99], which changed peoples’ perception of me as a cinematographer.”

Goi notes that although the aspirational “artist” may be compelled to only pursue mainstream projects that garner respect, “the reality is that shooting and directing films and TV is a job, and I don’t always have the luxury of turning down work just because it’s not glamorous. I often think of something Tommy Lee Jones once said when asked why he did so many crappy exploitation movies in the 1970s. He said, ‘I was never a waiter, truck driver or factory worker. I was always acting because I’m an actor.’ I feel the same way. It’s not always the most technically skilled person who succeeds, but rather the one who embraces opportunities. Once I agree to a job, I find ways to bring artistry into it.”

Goi joined Local 600 in 1996, and he soon began delivering lighting seminars around the country, encouraged by Local 600 National President George Spiro Dibie, ASC. “George said, ‘Talking about your work will help make you more recognizable,’ and he was right. Thanks to him, I gained visibility, often from people who attended my seminars. After *The Fixer* was nominated for an ASC Award in 1999, I was proposed for ASC membership, and George was my primary sponsor, along with [Society members] Richard Crudo and Stephen Lighthill.” The action film *Red Water*, directed by Carner, was the first project to feature Goi’s ASC credit onscreen.

“Do What the Story is Telling You to Do”

Goi made the most of the itinerant lifestyle that came with doing indie films and TV movies, but he also wanted to settle down and have a family. Because most TV production was in L.A., he reasoned that could offer him a more stable life, but there was one problem: “No one would hire me.” Then, in 2006, another college friend, Jeffrey Jur, ASC, recommended Goi for additional-cinematography duties on the Warner Bros. sci-fi series *Invasion.* Production refused, however, citing a “lack of TV credits,” Goi recalls. “At the time, my credits were mostly made-for-TV movies and Playboy productions, which they didn’t consider real television because those projects weren’t series. They felt series work had different demands and pressures. But Jeff insisted I knew the show’s style, and to appease him, they gave me five scenes to shoot one night.”

“People ask, ‘What’s the difference between shooting *Glee* and shooting *American Horror Story*?’ There’s none. I get inside the characters’ heads and depict their world visually.”

When Goi reported to set, he still hadn’t seen any footage from the show, so he asked Jur to describe the visual style. “Jeff reminded me of something he’d told me years earlier, when I worked as his electrician on a student film at Columbia College. I’d asked him what he wanted for the next scene, and he said, ‘You read *American Cinematographer*; you have the script; just do what the story is telling you to do.’”

With that guidance in mind, Goi shot the five scenes, and the results were so impressive the producers hired him as an additional cinematographer for another 15 episodes — and co-cinematographer for the final episode of the season/series.

Top: Goi (fourth from right) at the groundbreaking ceremony for the renovation of the ASC Clubhouse in 2008 with (from left) Society members Owen Roizman, Isidore Mankofsky, Victor J. Kemper, Richard Edlund, George Spiro Dibie, William A. Fraker, Richard Crudo, John C. Flinn III and Robert Primes. Above: Leading an ASC Master Class session on lighting to create mood for horror stories in 2024.

Meeting Murphy

Though *Invasion* was short-lived, working on it opened doors. Goi started shooting such shows as *My Name Is Earl*, a single-camera, half-hour comedy shot on 35mm. "Because it was a comedy, people suddenly assumed I was doing multi-cam, which I've actually never done," he notes. He decided not to return for *Earl*'s next season, opting instead for ABC Family's *The Nine Lives of Chloe King*, a one-hour drama about a 16-year-old girl with supernatural powers. "Most of the show took place at night, with lots of action scenes and heroics, all shot quickly on a seven-day schedule. ABC Family was doing 10-episode seasons, which was unusual then, but is now the norm."

Because production on *Chloe King* ended earlier in the schedule than most other shows, Goi was available for an interview with producer Ryan Murphy, who was seeking a cinematographer to alternate with Christopher Baffa, ASC on the third season of *Glee*. "The interview was brief — about 50 seconds — and they hired me on the spot," Goi recalls. Some time later, he was halfway through shooting a musical number for the show when he was literally pulled

PHOTO BY ROBERT FALCONER, COURTESY OF NETFLIX.

Working with actors Kiawentiio and Ian Ousley on a water sequence for an episode of *Avatar:The Last Airbender*.

off the set for a meeting with the producers. Expecting the worst, he was instead invited by Murphy to shoot the second half of *American Horror Story*'s first season.

After wrapping that, Murphy asked Goi what he wanted to do next: *Glee* Season 4 or *American Horror Story* Season 2. The cinematographer recalls, "I loved *Glee*, and shooting musical numbers was ideal for me — I grew up on MGM musicals, Vincente Minnelli's work, and *Cabaret* and *All That Jazz.* But I told Ryan that *Horror Story* was a show that needed me more, and he agreed."

Running the Asylum

Goi describes *AHS* as a show with many moving parts, including high-caliber, award-winning actors. "Some directors felt uncomfortable working with such big names, or hesitated to approach the visual style the show demanded. I saw that I could help with that process. Plus, I work very fast and rarely use more than three lights in a scene, which streamlined production. I could get it done efficiently while still giving it the look and feel the material demanded."

With *AHS: Asylum*, Goi was given his first opportunity to truly build the style, palette and atmosphere of a series from the ground up. "I'd started implementing some of my ideas in the last two or three episodes of Season 1, but in Season 2, I went all out to create the look and feel I felt the show needed. That resonated with audiences, and the show became what it is today."

Over the course of *AHS*'s first five seasons, the industry's perception of Goi and his work changed once more. "Suddenly, I wasn't just 'the fast DP,' I was 'the artistic cinematographer.' I credit Ryan Murphy and [*AHS* co-creator] Brad Falchuk for that — because they gave me complete artistic freedom to translate the images in my head directly onto film — and my gaffer, John Magallon."

Establishing a close relationship with actors helps Goi with this process, since his work depends on understanding what the characters are thinking or feeling at any given moment. "When you're lighting and shooting a scene, there's a technical roadmap, but with actors, you don't always know what they'll do with a script in rehearsal, and that unpredictability keeps things fresh." Whether he's working with Gary Oldman, Lady Gaga or Jessica Lange — or a day player with five lines — Goi is always open to changing his plans if the actor's approach sparks a better idea.

Goi's rapport with actors and efficient working style led to an invitation to direct an episode of *AHS: Freak Show*, the show's fourth season. The following season, Goi directed two

"Major studios are merging, and the streaming services are consolidating, leading to fewer productions, but many of the most innovative ideas are now coming from TV."

Goi on the set of the 2019 horror feature *Mary*, which he directed and shot.

"Embrace new things, and don't be afraid to fail."

more episodes, and by Season 6, he made the transition to full-time series director. "Honestly, the most enjoyable part of working on the show for me was being the cinematographer," he admits. But once he transitioned into directing, he decided to further prepare by applying to the Warner Bros. Directors Workshop.

"They were surprised that I'd applied since I'd shot so much for them already," he recalls. "But I insisted on going through the training pipeline to learn the studio's way. They put me in the course, and I immediately started getting calls to direct shows like *Pretty Little Liars*, *Famous in Love* and *Shadowhunters*." Fox, where Goi spent much of the last six years as cinematographer on all of Ryan Murphy and Brad Falchuk's shows, also reached out with directing opportunities.

Seeing Through Sea Changes

The production landscape has evolved dramatically since Goi first arrived in Hollywood 30 years ago. "We're in a period of contraction now," he observes. "Major studios are merging, and the streaming services are consolidating, leading to fewer productions, but many of the most innovative ideas are now coming from TV.

"In another year, I think we'll have a clearer picture of the new paradigm for film and TV production. Money is definitely a driving force — studios want smaller budgets and tighter schedules — but every studio, network and production company is also looking for content that stands out, something iconic that grabs the public's attention. It'll be an exciting time for creative people with unique perspectives. Stories that reflect diverse cultures and viewpoints will thrive if they find a champion in the industry who believes they'll resonate with the public."

Goi is excited to be part of the evolution, and as chair of the ASC's Artificial Intelligence Committee, he has some perspective on what lies ahead. "Whenever a new technology emerges in the film industry, it drives a demand for those who can navigate it and use it. If you approach it with a willingness to learn, you'll evolve along with the industry. Embrace new things, and don't be afraid to fail."

WPA CONGRATULATES OUR FRIEND AND CLIENT MICHAEL GOI, ASC, ISC ON RECEIVING THE ASC'S CAREER ACHIEVEMENT IN TELEVISION AWARD

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PORTRAIT BY JACEK LASKUS, ASC, PSC / COURTESY OF THE ASC.

Pete Romano, ASC: Deep Dive

Recipient of the 2025 Curtis Clark ASC Technical Achievement Award, the underwater specialist has spent a unique career working between two worlds.

By Rachael K. Bosley

With the eye of an artist, exactitude of an engineer and resolve of a Navy veteran determined to accomplish the mission, Pete Romano, ASC has been advancing the craft of underwater cinematography for more than 50 years. When the Boston native took his first dive with a camera for the U.S. Navy in 1973, he could not have predicted his path would lead to Hollywood, but he knew he had found his calling.

"And after all this time, it's still fun!" he marvels. "How's *that*?"

When Romano accepts the Curtis Clark ASC Technical Achievement Award at the Society's awards gala Feb. 23, he will be celebrated as a specialist who supports artistry through innovation. (Previous recipients were optical engineer and ASC associate member Dan Sasaki and visual-effects expert Sam Nicholson, ASC.) HydroFlex, the company Romano founded, has for decades provided filmmakers with underwater camera and lighting solutions, two of which have been recognized with AMPAS Technical Achievement Awards: the SeaPar 1.2K HMI (developed with Richard Mula) and the Remote AquaCam housing.

Romano has also long demonstrated his own artistry as an underwater cinematographer, creating shots and sequences that convey chaotic combat (*Pearl Harbor*) and sun-drenched reverie (*The Tree of Life*), dramatic reveals (*Waterworld*) and piercing moments (*Saving Private Ryan*), droll comedy (*The Life Aquatic With Steve Zissou*) and spectacular action (three features in the *Mission: Impossible* series). Whether the call sheet demands a dive tank or open water, he loves to jump in and help tell the story. (See *AC* Oct. '21.)

Putting His Housings in Order

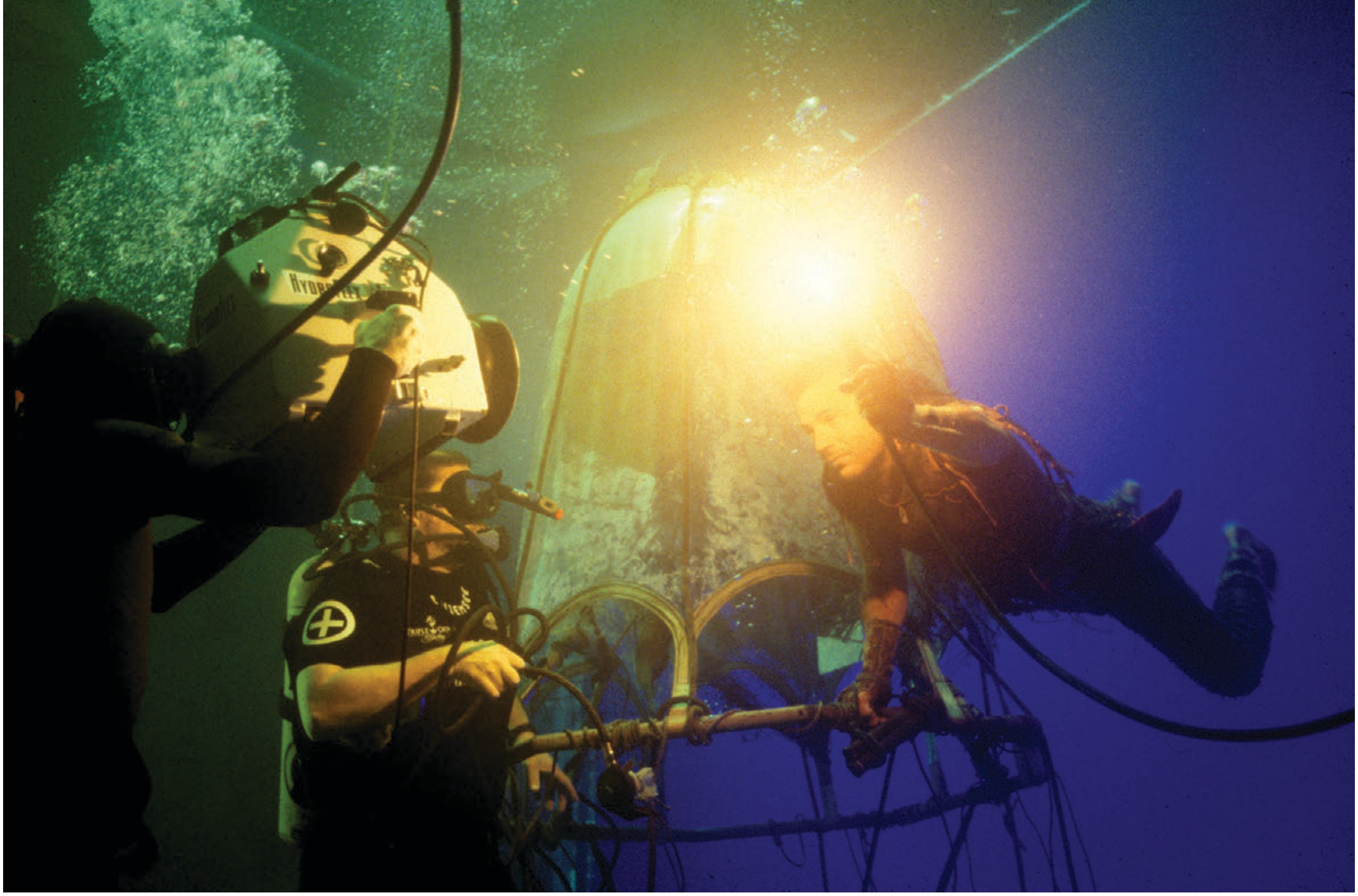
Romano's passion for the craft and keen desire to make a living at it motivated him to learn machining and build his first housing, for a Cinema Products 16mm GSMO, in the early 1980s. He did the work on nights and weekends in the machine shop at Industrial Light & Magic, where he was assisting visual-effects cinematographer and future ASC member Bill Neil.

"In those days, you were lucky to find [underwater] equipment that didn't flood and let you understand where your frame was," he recalls. "It was somewhat disheartening — a lot of side-finder wind-up Bolex cameras and old incandescent underwater Birns & Sawyer lights. I shot a swimming-pool commercial using a Bolex I'd rented from Adolph Gasser Photography in San Francisco, a wind-up with a side finder. It worked great — until I went in for the close-up, and the close-up was way off frame because I didn't understand completely. I had to reshoot that, and it was a very valuable lesson. I realized pretty quickly that I'd need to build my own equipment in order to pursue my goals."

After moving on to VFX house Boss Film Studios to work as an

Opposite: Pete Romano, ASC was accepted into Society membership in 2007, upon the recommendations of ASC members Matthew Leonetti, David B. Nowell and John Schwartzman. Pictured here: Angling in on Jessica Chastain in a river in Texas for Terrence Malick's *The Tree of Life*.

IMAGES COURTESY OF PETE ROMANO, ASC / THE ASC ARCHIVE. PHOTO ON THIS PAGE BY LOREN ELKINS.



TOP PHOTO BY CHIP MATHESON. BOTTOM PHOTO BY BEN GLASS, COURTESY OF UNIVERSAL PICTURES / THE ASC ARCHIVE.

Romano served as underwater director of photography on *Waterworld*, which included shooting action against submerged bluescreens for visual effects shots. Actors Kevin Costner and Jeanne Tripplehorn (above) braved the depths.

operator, Romano was hired by the Cousteau Society to help design a housing for its custom 35mm underwater-camera system. He maintained the spherical-tube design of Jacques-Yves Cousteau's previous housings, creating a round solution for the 400' model and an elliptical solution for the 1,000' model; these became the foundation for production housings he would design down the road. "Hydrodynamically, you can't do any better than a circle," he observes.

Setting Standards

Romano understood that underwater cinematography was destined to remain a small niche as long as there was no standardized equipment that could accommodate current motion-picture cameras. So, he created a housing for the Arri 35 III, the workhorse of 2nd units at the time. "The shape of the camera dictated the design, with the housing's more angular shape mirroring the camera body and mags," he notes.

Romano proved the concept shooting B camera on *Jaws 3-D* and *Splash* for underwater cinematographer Jordan Klein. Shortly thereafter, with support from Denny and Terry Clairmont and Alan Albert at Clairmont Camera, he designed and built HydroFlex 35-3 housings with video assist and high-speed capability. Soon, they were in demand.

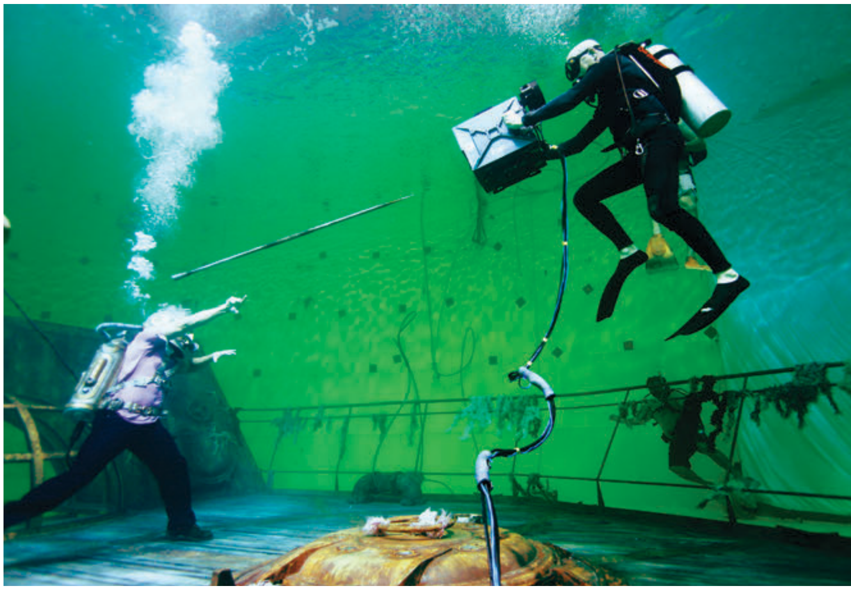
Underwater lighting needed to be advanced, too, and Romano and Mula did that by creating the first underwater HMI, the award-winning 1.2K SeaPar, for James Cameron's *The Abyss* (shot by Mikael Salomon, ASC; *AC* Dec. '89). For the production's VFX team, Romano also designed housings for the Panavision High-Speed Hand Held 65mm and the Mitchell VistaVision Butterfly.

On-Set Ingenuity

HydroFlex had developed a full line of underwater HMI and incandescent fixtures by the time Romano served as underwater director of photography on *Waterworld* (1995) for Dean Semler, ASC, ACS. A pivotal underwater bluescreen sequence he shot with Kevin Costner and Jeanne Tripplehorn called for all 100 1Ks in his inventory. Discussing the waterborne production with *AC* (Aug. '95), Semler enthused about Romano's many contributions to the project, including tiny water deflectors that squirted compressed air on the camera lens to keep it clean, and housings that enabled the main camera operators to work handheld

TOP PHOTO BY NICHOLAS "SODAPOP" FRANCHOT. BOTTOM PHOTO BY LOREN ELKINS.

Above: Shooting at Acton Water Stage for Season 5 of the comedic sports drama series *Ballers*. Right: Dwayne "The Rock" Johnson hurls a harpoon toward the camera for a scene in the 2012 feature *Journey 2: The Mysterious Island*.



"I have the most amazing advantage in the ASC: I work with all these directors of photography! ASC members almost never get to work with each other."

at surface level and then drop the camera a few feet lower and keep shooting.

"A lot of my ideas, even inventions, were spurred by being on set and seeing what production was up against, what the crew was up against, and wondering how we could make it easier and better," Romano says. "All that time in production has definitely given me an advantage in designing things that work."

RAC in Focus

Romano conceived the Remote AquaCam, which eventually proved vital to HydroFlex's evolution in the digital age, for Caleb Deschanel, ASC on *Message in a Bottle* (1999). Deschanel wanted to mount an underwater housing on a Libra head, so that a 35mm Pan-Arri could dip into and out of the water to capture Kevin Costner struggling in the waves during a storm. For the solution, Romano returned to the tubular design used for the Cousteau Society, asked SL Cine to create custom straight-back film magazines to fit in the tube, and asked Howard Preston of Preston Cinema Systems to integrate his three-motor lens-control system. Deschanel got the shots he wanted, and the RAC brought Romano his second Academy Technical Achievement Award in 2002. When the Arri 435 replaced the 35-3 for most 2nd-unit work, he modified the housing accordingly.

After the advent of digital, Romano initially considered customizing the RAC for specific camera models. ASC President Shelly Johnson recalls receiving one on *Captain America: The First Avenger* (*AC* Aug. '11),

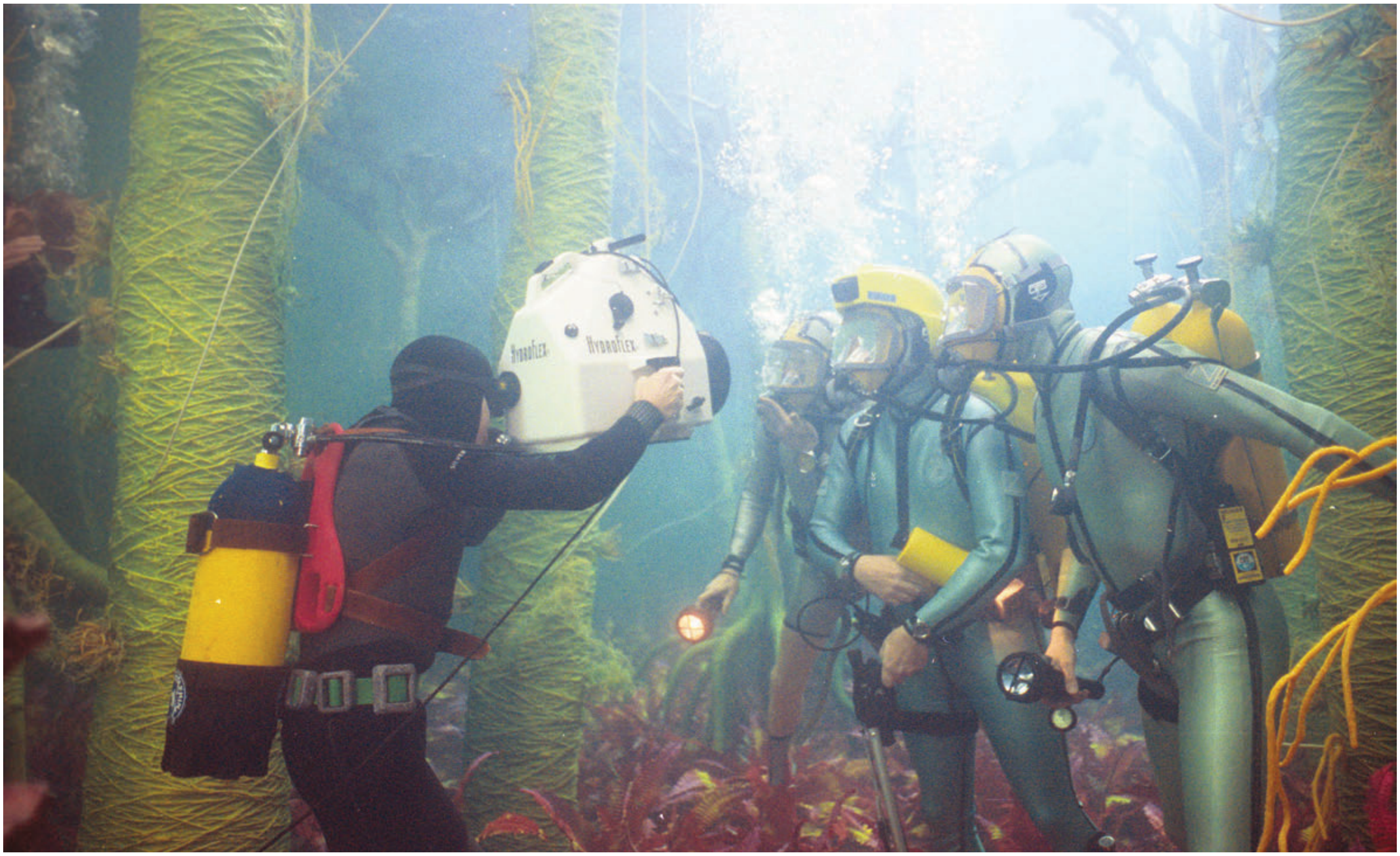


PHOTO BY MARIAN ZURICH.

Shooting on the Fellini Stage at Cinecittà in Rome for Wes Anderson's *The Life Aquatic With Steve Zissou*.

> **"A lot of my ideas, even inventions, were spurred by being on set and seeing what production was up against, what the crew was up against, and wondering how we could make it easier and better. All that time in production has definitely given me an advantage in designing things that work."**

which called for a submarine sequence to be shot in the tank at Pinewood Studios. Johnson planned to use the Panavision Genesis. "When I contacted Pete to ask for a Genesis housing, he said, 'Well, I don't have one,' and as we discussed the options, he offered to make one," says Johnson. "He warned us about the heat because digital cameras run hot, which can lead to problems topside if you leave the camera running in a housing. We took him up on the offer, and in the meantime, he sent along a housing for the Arri 35 III so we could shoot the sequence on film if we had to. Some weeks later, the new housing arrived, and we opened the box and were immediately overcome by paint fumes because it had been freshly painted, packed up and rushed off to us. [*Laughs*.] It actually arrived the morning of the shoot, and we were ready to go on film, but we put the Genesis in the housing and it fit beautifully — perfectly, like we had done it a thousand times. Under the water it went, and there were no problems at all."

As digital-cinema cameras began to proliferate, it became apparent they would have no standard shape or size. "I had to rethink my whole approach to this business so I could continue shooting," Romano says. "A housing designed for a specific film camera was useful for a dozen years or more, but with a digital camera, you're lucky to get a year out of it. With all the cameras coming out, that just wasn't feasible."

He took the RAC back to the workbench and redesigned the interior. "The rear part of the housing exactly matches what I designed in 1997, but by using different base plates and connectors, it can now accommodate more than 30 cameras. It's the Swiss Army Knife of underwater housings."

Further Innovations

Romano continues to be inspired by projects that call for new or custom solutions. For *Alien Resurrection* (shot by Darius Khondji, ASC, AFC; *AC* Nov. '97), he created HydroFlos, adapting Kino Flo panels for underwater use; for *The Perfect Storm* (John Seale, ASC, ACS; *AC* July '00), he created the HydroFlex Splashbag; for *Pearl Harbor* (John Schwartzman, ASC; *AC* May '01), he created the two-axis HydroHead (which now includes a third-axis option for Ethernet and Preston compatibility); for *Mission: Impossible — Rogue Nation* (Robert Elswit, ASC; *AC* Aug. '15), he built a housing for the not-yet-released Arri 65; for *Dunkirk* (Hoyte van Hoytema, ASC, FSF, NSC; *AC* Aug. '17), he created custom Studio and Handheld Splashbags for Imax 65mm cameras; and for *Avatar: The Way of Water* (Russell Carpenter, ASC; *AC* Jan. '23), he developed the SeaSun S30 SkyPanel, enabling underwater use of Arri's popular LED solution.

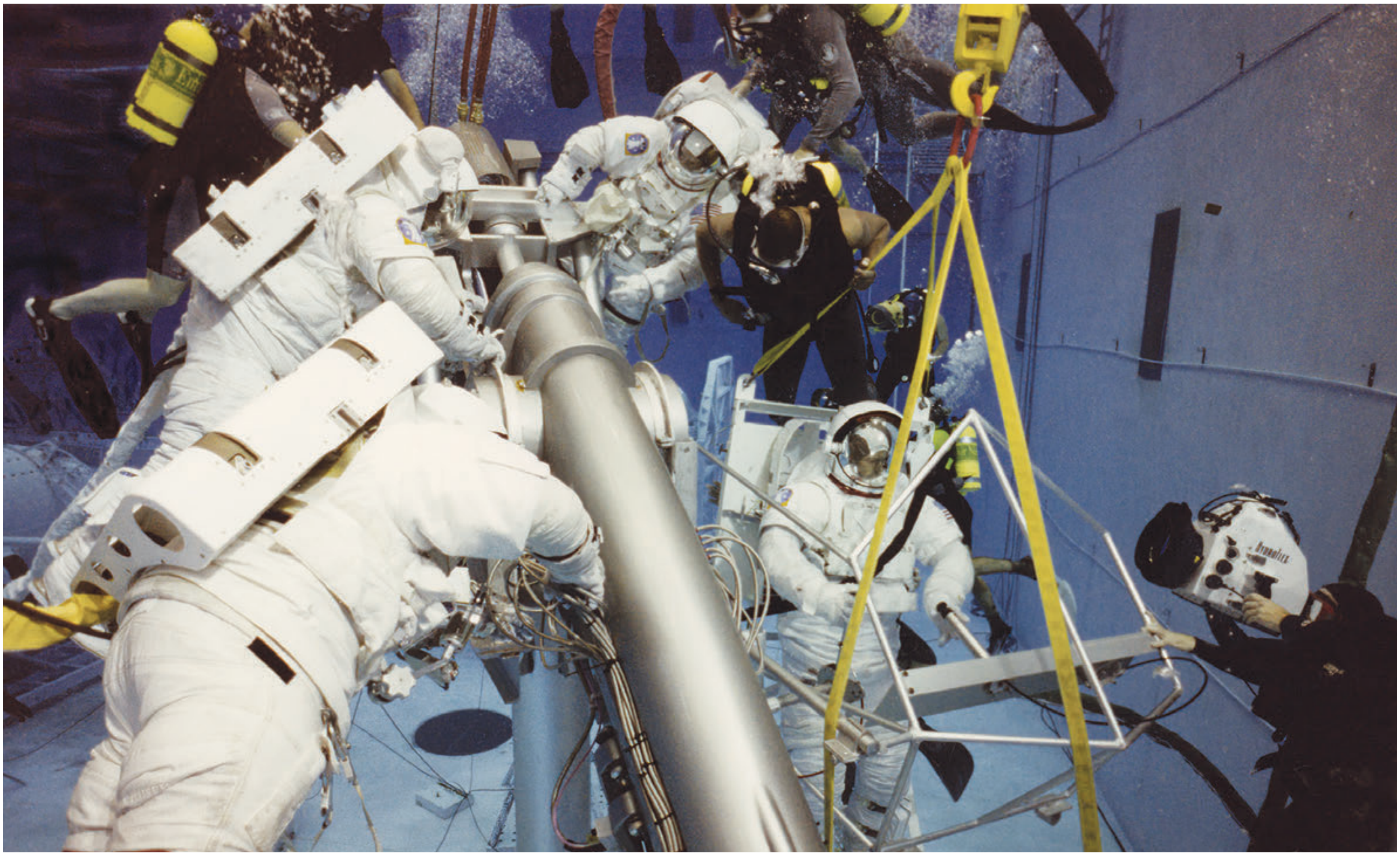


PHOTO BY CHIP MATHESON.

Filming at NASA's Texas-based Neutral Buoyancy Lab for Michael Bay's *Armageddon*.

"All this stuff I've built was a means to an end: to be able to work," he says. "It got a little out of control, and I'm still building! I'm a driven man, for sure." He recognizes, too, that being a specialist puts him in a privileged position. "I have the most amazing advantage in the ASC: I work with all these directors of photography! ASC members almost never get to work with each other."

He enjoyed an especially fruitful collaboration with Schwartzman, who benefited from Romano's range of expertise over the course of shooting three features for Michael Bay: *The Rock* (*AC* June '96), *Armageddon* (*AC* July '98) and *Pearl Harbor* (*AC* May '01). Schwartzman recalls, "I met Pete through my gaffer, Andy Ryan, who had worked on *The Abyss*, and I brought Pete onto *The Rock* as the underwater cinematographer. He taught me how you light underwater from above the water, and then he discussed why he'd recommend a flat port with a certain lens for one shot and a dome port with a certain lens for another. As I listened to him, I thought, 'This guy's a filmmaker.' Cut to *Armageddon*, where Pete was the only one NASA would allow to film underwater in the giant Neutral Buoyancy Tank because he was a Navy diver — that's Pete in there with the astronauts and the actors. The HMIs we put in the tank had to pass a tough NASA risk assessment first, and Pete was totally game for it. Then, on *Pearl Harbor*, I told him Michael Bay wanted to do crane shots where the camera started above the water and boomed down as much as 10 feet underwater, and vice versa. Nothing like that had been done before. Pete made the HydroHead for us in four months.

"He's an innovator, a throwback to the great cinematographers of the 1910s, '20s, '30s and '40s — if something didn't exist, they figured out a way to build it," Schwartzman continues. "I could always go to him and say, 'Look, I want to do this, can it be done?' And being both a cinematographer and an engineer, he could say, 'Give me three weeks and I'll get back to you.' His joie de vivre and his constant innovation are why I always went back to him. His work is spectacular, and he's a problem solver."

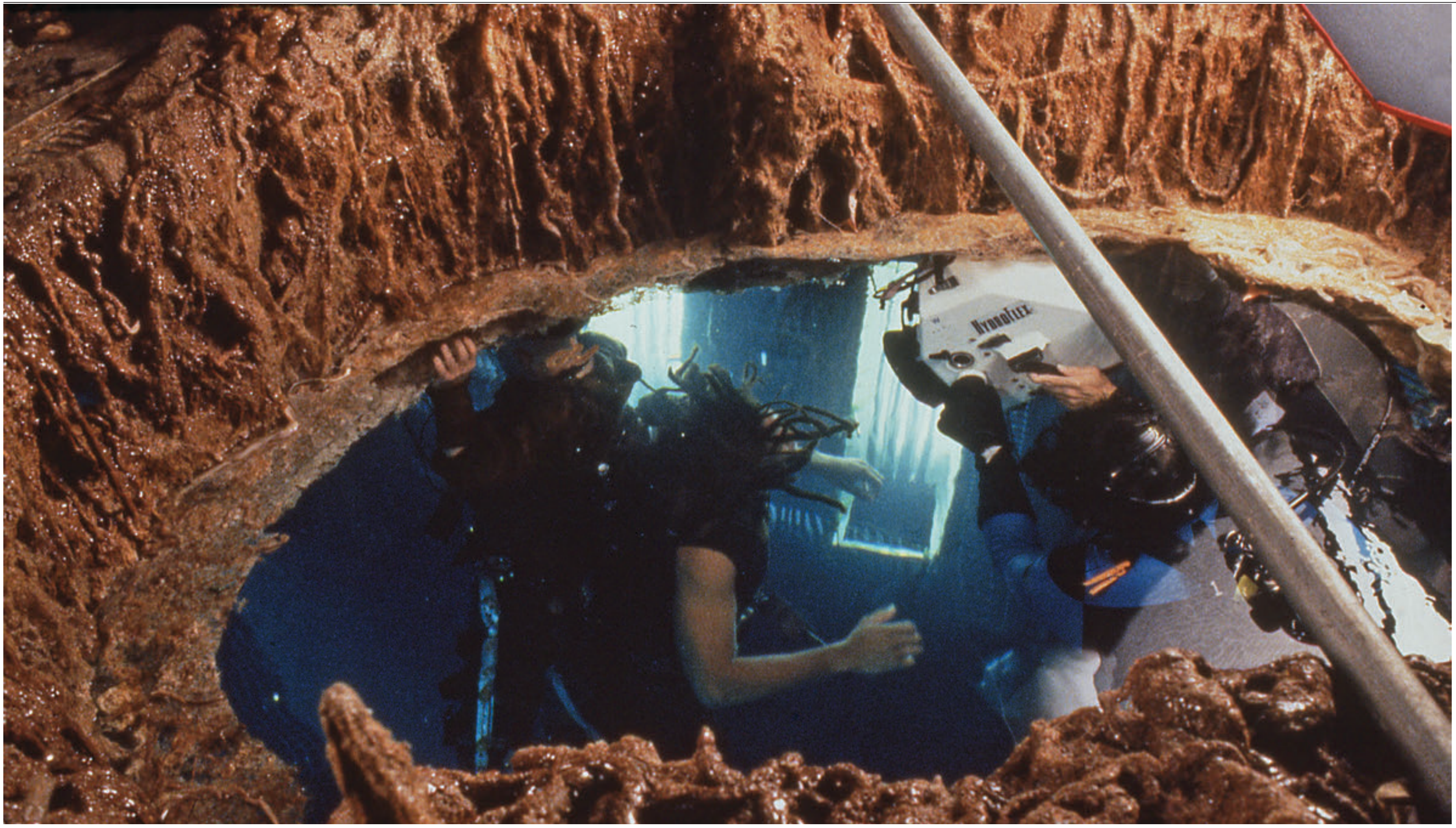
"Go Out There and Get Cool Shots"

Romano says of all the films he's worked on, *Pearl Harbor* was particularly resonant because of his Navy-diver background. While filming underwater during the sequence depicting the attack on the *USS Oklahoma*, he created one of the film's most iconic shots: As the camera looks up at sailors treading water mid-battle, a war-torn American flag sinks into the depths, backlit by the sun.

"That's pure Pete," Schwartzman says. "You know, on a Michael Bay set, we probably had 10 other cameras going and Pete underwater, and Michael's direction was, 'Go out there and get cool shots.' And, obviously, that day Pete got the coolest shot. I don't think we set that up for him, but he has a great eye, he knew how to put the camera in the right spot, and he knew the Michael Bay world and the story we were trying to tell. I never told him what to do. He's a guy you can just turn loose."

Connecting With History

Romano became an ASC member in 2007, after Schwartzman and fellow ASC members Matthew Leonetti and David B. Nowell put his name forward. Membership in the Society brought him one step closer to a



TOP PHOTO BY SUZANNE TENNER, COURTESY OF 20TH CENTURY FOX / THE ASC ARCHIVE. BOTTOM AND OPPOSITE PHOTOS BY CHIP MATHESON.

Top: Romano operated B camera for cinematographer Darius Khondji, ASC, AFC for a pivotal underwater sequence in *Alien Resurrection*. Above: Shooting at Sony Pictures Studios' Saucer Tank for Steven Spielberg's *A.I. Artificial Intelligence*.

professional forebear whose achievements still inspire awe in him today.

"My inspiration is an old ASC member named Lamar Boren, who shot underwater on *Thunderball*, *You Only Live Twice* and *The Spy Who Loved Me* — big films!" Romano says. "He was a pioneer, one of the original members of the Bottom Scratchers, the first organized diving club in the United States. These were guys who'd go diving and bring up three abalone, but they were only snorkeling — no scuba gear. *Thunderball* is still the quintessential underwater fight scene, with spear guns, an amazing amount of coordination, and a lot of really good diving people who knew what to do. I don't think you could do it today!"

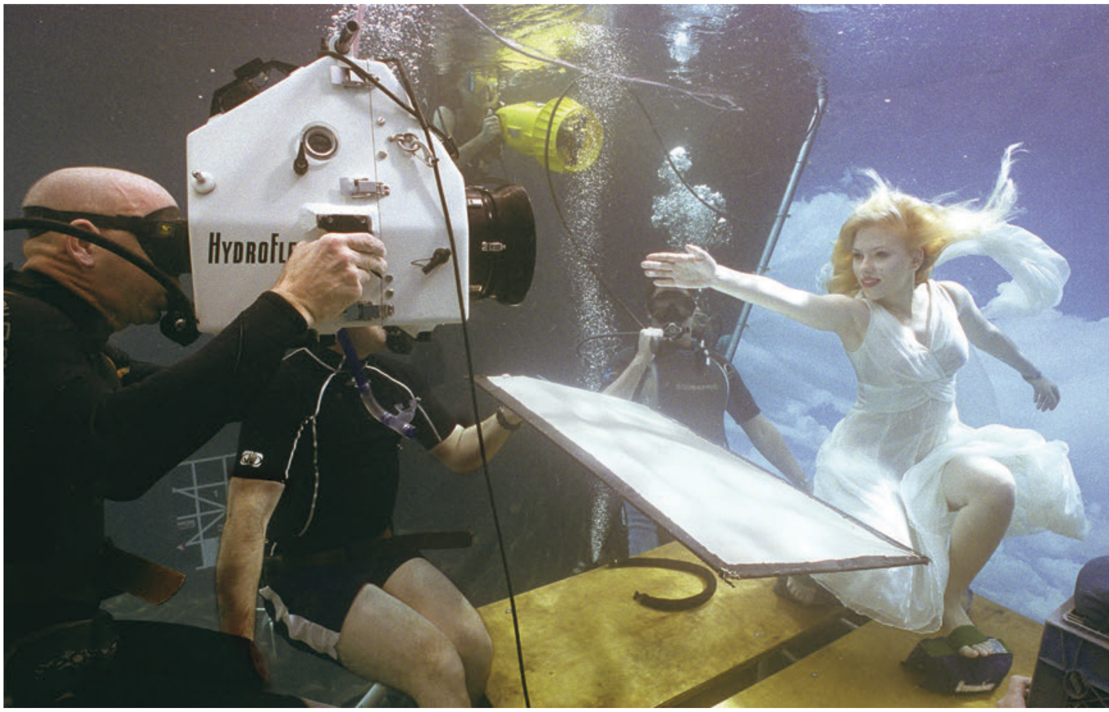
Two of the housings and cameras Boren used on *Thunderball* occupy pride of place in Romano's burgeoning collection of underwater memorabilia, some of which is displayed at HydroFlex headquarters in El Segundo. "It's a very large building, and I'm thankful for that!" he says with a laugh. Other treasures include a quad Italian poster for Cousteau and Louis Malle's Oscar-winning documentary *The Silent World* (1956) and a poster for the Williamson brothers' *20,000 Leagues Under the Sea* (1916), the first feature to be filmed underwater.

"It's my history, and it's near and dear to me," Romano says. "We're doing some great things today, but the pioneers built the foundation, and we're just adding to it. I'm very passionate about what I do, but I certainly was not the first to do it. I've just taken the baton and moved it a spot."

Deep Impact

Implicit in Romano's selection for the honorary ASC Award is the collective conviction that he has made a much greater mark than that.

"In creating this award, we wanted to recognize people in our industry who affect our everyday lives as cinematographers and who go over and above what normally is done," says Charles Minsky, ASC, chairman of the Awards Committee. "These are people you can call 24 hours a day, and they don't mind because they're thinking about your problems as much as you are. When we started discussing the recipient this year, as soon as Pete's name came up, everybody said, 'Yeah, that's perfect.' He's a brilliant, highly creative cinematographer who not only has a great eye, but is also creating state-of-the-art equipment that is ultimately going to help you do your job better. It's really very rare to find somebody like that."



Shooting Scarlett Johansson for Michael Bay's *The Island* with the aid of HydroFlex stainless-steel shot bags, which helped stabilize the actor's feet to allow for greater control over her underwater performance.

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Looking Back at *A Complete Unknown*

Phedon Papamichael, ASC, GSC on re-creating the '60s and framing an emerging icon's bridge from folk to electric.

By Iain Blair

The feature *A Complete Unknown* — which begins as young singer-songwriter Bob Dylan (Timothée Chalamet) arrives in New York City in 1961 and tries to find his place in the Greenwich Village folk-music scene — marks Phedon Papamichael, ASC, GSC and director James Mangold's latest collaboration. Papamichael calls shooting Mangold's Johnny Cash film *Walk the Line* (*AC* Dec. '05) "one of the highlights of my career," and he was excited to join the director on a similar venture.

"I think there's something magical about capturing an artist, especially a musician — the performances always end up being so inspiring," the cinematographer adds. "I was really looking forward to taking this on, knowing that Jim is very, very good with characters and stories. This is a biopic about this young guy who's really gifted and became really famous — but what makes this person tick? What is his process? What is the insight into his soul? Those are things Jim is very good at discovering and exploring."

Papamichael recently spoke about the project with *AC*.

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Opposite: A young Bob Dylan (Timothée Chalamet) has made his way to New York City. This page: A frame capture depicting Dylan performing with fellow folk luminary Joan Baez (Monica Barbaro).

***American Cinematographer*: What did you and James Mangold discuss as you started to formulate your visual approach?**

Phedon Papamichael, ASC, GSC: I suggested to Jim that perhaps we should capture this story less classically and go a bit looser with our framing, more handheld. I even suggested the use of black-and-white. Jim agreed — except for the black-and-white, of course [*laughs*] — but this being our seventh feature together, we have developed a visual language: We're very much in sync in terms of a cutting pattern, the timing of camera moves, lens choices, compositions. And yes, perhaps you could label it a classical Hollywood approach.

So, as we started shooting, we fell back into our familiar visual language and compositions using our wide-lens preference — 80 percent of the film was shot with the 40mm — putting the camera physically close to our actors. It creates a sense of being with the performer onstage and really experiencing feeling through their physical space, getting into their eyes and their expressions, understanding the context of each scene.

Once we were a week into filming, and we were discovering Timothée's amazing musical ability and the gift of his nuanced performance, I turned to Jim and said, 'Well, now we're shooting with our usual approach to close-up composition.' And Jim goes, 'But that's who we are as filmmakers.' And it's true — we have a story, and we're going to have the performances that tell us how to shoot. Ultimately, when I see the blocking and see the actors discover their space on the day, that's the deciding factor for how it will be covered. Of course, we make a shot list and put a timeline to it, but in the end, it's all about staying fluid and discovering the essence of the scene — what the key moment is, the sweet spot for each shot. Every scene has its purpose and moves the story forward, and if it doesn't, then it's not going to be in the movie. It all worked out beautifully, because Timothée is such an incredibly intuitive performer, and we were fortunate to have an incredibly gifted, intuitive A-camera operator in [P.] Scott Sakamoto.

What were some of the things you tested in prep?

This was a bit of a different process from our last film [*Indiana Jones and the Dial of Destiny*, *AC* Sept. '23]. Jim and I were very much looking forward to getting back to our earlier filmmaking roots in terms of slightly less formulaic imagery. We were also excited that we could have a less 'cutty' scene design. We wanted to approach it with more emotional photography — less clean, less high-key, more natural — and embrace the mood and texture of the '60s. I tested the Sony Cine Venice 2, and I saw that when rated at 6,400 ASA or even 12,800, it's really clean in terms of digital noise. We shot 8.6K with full sensor and expanded anamorphic lenses at 2.39 aspect ratio. So, I had a very clean image even at those very high sensitivities.

I knew I was going to add film grain; we've done that in the past because we like the extra texture. But on this project, I discovered that FotoKem does what they call a 'shift AI,' which means you still color grade in the DI, but then you use an ArriLaser film recorder to expose a negative stock. In our case, we used Kodak Vision3 50D 5203. Then we scanned it back and finalized the color-grading with our colorist, [ASC associate member] David Cole. With LiveGrain, you can emulate film-looks of various film stocks on your digital image, and you can change opacity and grain size, and manipulate it to create a film feel. But this was the real thing, where we were actually going to film and all its inherent qualities. It really looks and feels very much the way I remember films that I shot anamorphic on a 35mm camera — like the recently 4K-remastered *The Million Dollar Hotel*, directed by Wim Wenders.

What did you have in mind for your lighting approach?

I wanted to apply a less high-key 'Hollywood' lighting approach— really minimal lighting. I wanted to do all my street scenes without condors and big backlights. Jim and I were looking to capture the spirit and feel of the '60s in the West Village, which was dark and textured and dirty, with garbage on the streets and moody, dimly lit clubs and bars. With the Venice 2, I could use minimal lighting on night exteriors and

Above: Dylan amasses a growing fanbase. Middle: Operator P. Scott Sakamoto captures a Steadicam shot of Edward Norton, who plays folk veteran Pete Seeger. Bottom: Phedon Papamichael, ASC, GSC takes a meter reading.

still shoot at T8/11. I loved the greater depth of field, because another thing I associate with a digital look is a very shallow focus. My references were movies like *The French Connection* and *The Conversation*, classics from the ’70s, which didn’t look so shallow and had contrasty tonality and textures. I was also inspired by the still photography of Saul Leiter, Ernst Haas and William Eggleston, which had this Kodachrome quality of contrast and saturation I remembered from my still days. I wanted to see details in the brick walls, the fire escapes across the street, and I didn’t want all of that to go soft when in a close-up.

I was able to light with very small handheld light sources — the Rosco DMG Dash — and control the levels during the take with a mobile wireless 12-channel dimmer board that I discovered on *Indy* — the DMX-iT. It lets my gaffer, John Alcantara, and me walk around the set or location and adjust the light levels by eye during the take as needed, just augmenting the natural light sources provided by the urban ambience. I could also make instant level adjustments from the DIT tent off of the monitors during a scene and control kinetic lighting cues manually,

> **“In the end, it’s all about staying fluid and discovering the essence of the scene — what the key moment is, the sweet spot for each shot.”**

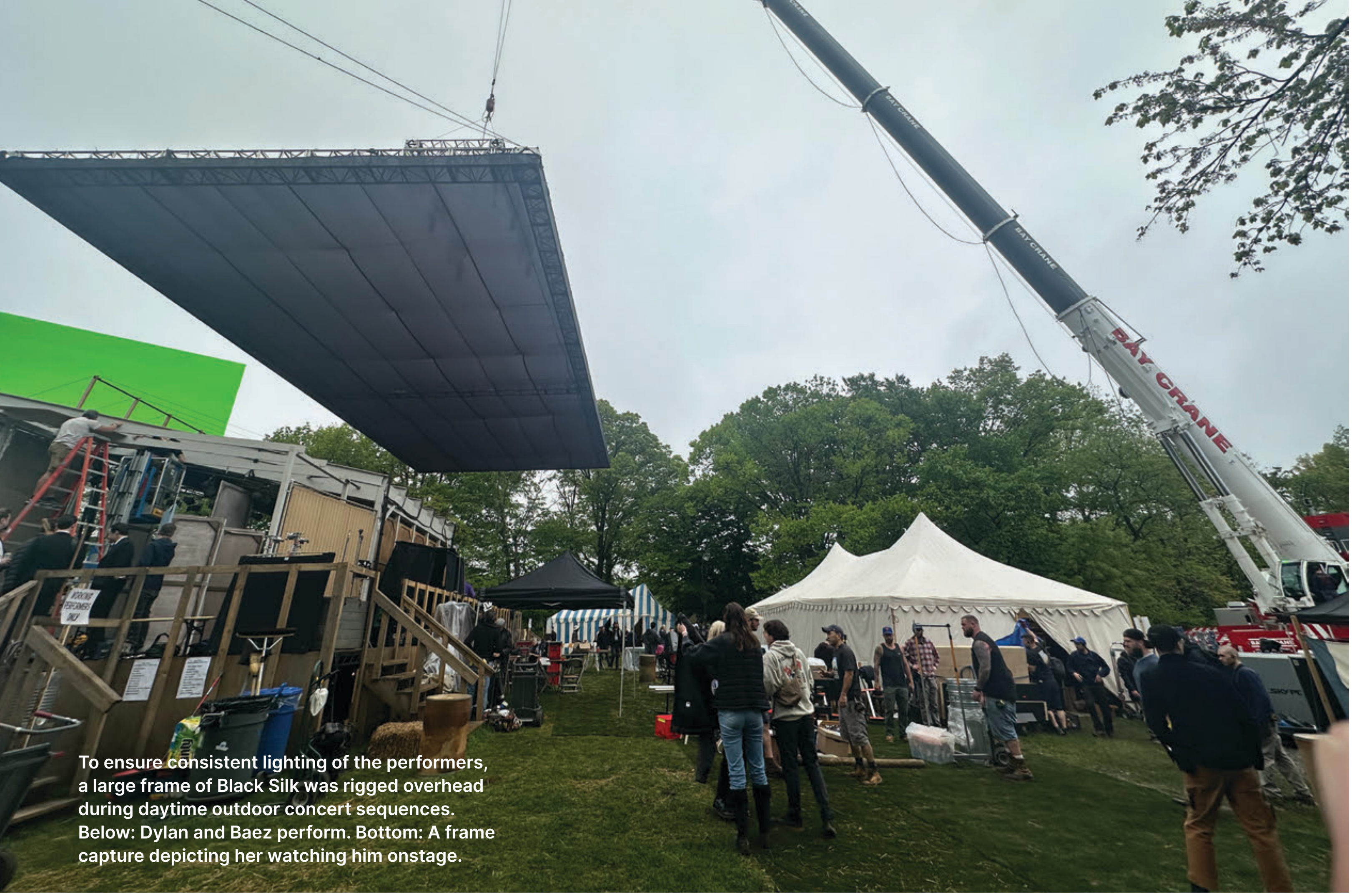
Above: The crew captures Barbaro performing. Middle, from left: Sakamoto, Papamichael and director James Mangold prepare to shoot. Bottom: Mangold squares up a shot with Chalamet.

adjusting to the actors' timing, vs. pre-programming.

We'd often have two electricians walk left and right alongside the Steadicam, [each] with a small Rosco Dash eyelight/fill light that had a little softening dome on it, and bring them up when I felt necessary. It was really just using the streetlights and whatever was coming out of windows, and I'd ask for a wet-down and steam stacks — and at 12,800 ASA, we were able to avoid elaborate lighting setups. This gave the director and actors a lot of freedom, while also allowing the company location moves [to be made] easily.

What were your considerations in choosing optics?

I went to [ASC associate member] Dan Sasaki at Panavision, who had customized and expanded my anamorphics for *Ford v Ferrari* [*AC* Nov. '19]. Since then, a lot of movies have been shot with these expanded C and T Series anamorphics, and I felt like they'd perfected them almost too much — that they'd lost some character and were too clean. When I discussed this with Dan, he offered to make me new lenses for this film, by using the front element from the oldest anamorphic glass — the B and C series — and then maintaining the rear element and the calculations of a T Series, which allows us to have very close focus. Jim and I like to be physically close with a wider lens when we shoot close-ups. Jim is also really into focus racks as a storytelling device. So, Dan created this new hybrid-lens set that gives you the warmer specular flares of the old glass, but also the practicality and the close-focus ability of newer lenses.



To ensure consistent lighting of the performers, a large frame of Black Silk was rigged overhead during daytime outdoor concert sequences. Below: Dylan and Baez perform. Bottom: A frame capture depicting her watching him onstage.

Was the entire shoot location-based?

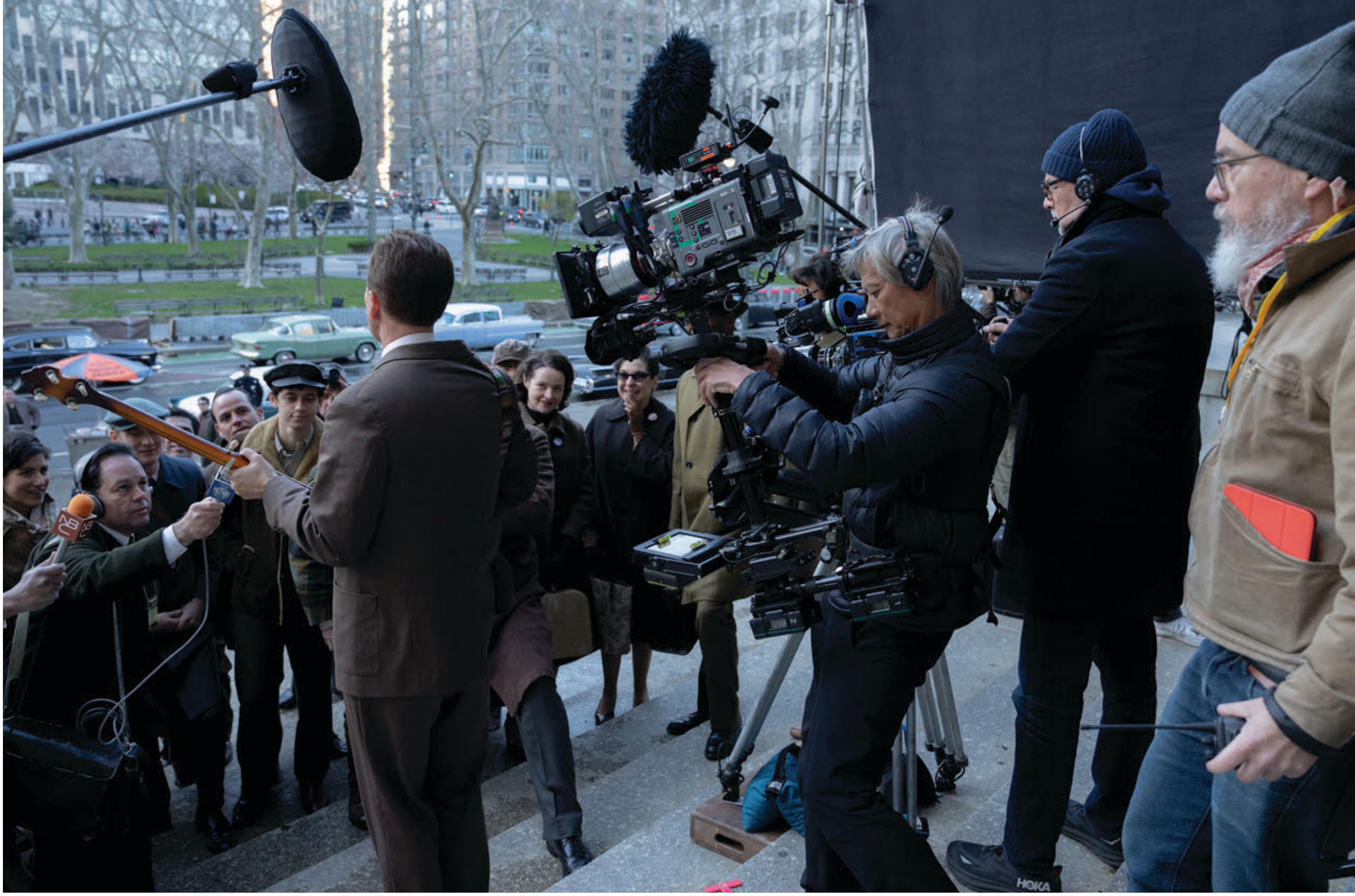
We shot for 62 days, all in New Jersey with the exception of the Chelsea Hotel exterior and the courthouse in downtown New York. New Jersey was chosen mainly for tax-rebate reasons, but certain practical issues were also easier, like controlling the streets, changing over storefronts, and turning a street in Hoboken into a period MacDougal Street.

We wanted to feel the different seasons. The story spans more than five years, and we started our schedule in March, with Dylan's arrival in New York in 1961. He arrives in the winter, so we were looking for the cooler, muted tones, did wet-downs and got lucky with overcast skies — and managed to squeeze all those scenes before the trees started blossoming. Later, there are summer concerts — Newport and Monterey, California, which we also shot in Jersey with a lot of extras in T-shirts; we did that in the last month of our schedule in June.

What was the most challenging scene to shoot?

The scenes I can't control are always the most difficult. When you have day-exterior scenes shot over multiple days, like the big Newport concert, you run into problems with inconsistent weather — clouds come in and out, contrast changes, trees pop in one shot and look fairly dull and muted in the next shot. And it was an open-air arena with hundreds of extras. Key grip Brendan Lowry helped design an overhead Black Silk that was hung on a large construction crane to cover performers

"I think there's something magical about capturing an artist, especially a musician — the performances always end up being so inspiring."



onstage, so at least they were consistently lit. But all the contrast and saturation levels fluctuated in the background, so you have to be really smart about how to lay out the day and react to the weather forecast.

The final performance there was at night. You would think that big night exteriors are the hardest to do, but I find them the easiest because I can control everything. We used the period stage lighting that we had seen in the reference footage and documentaries: 1K Babies, tungsten floodlights, PAR cans [and so on].

You and Mangold typically do single-camera work. How did you approach the concert scenes?

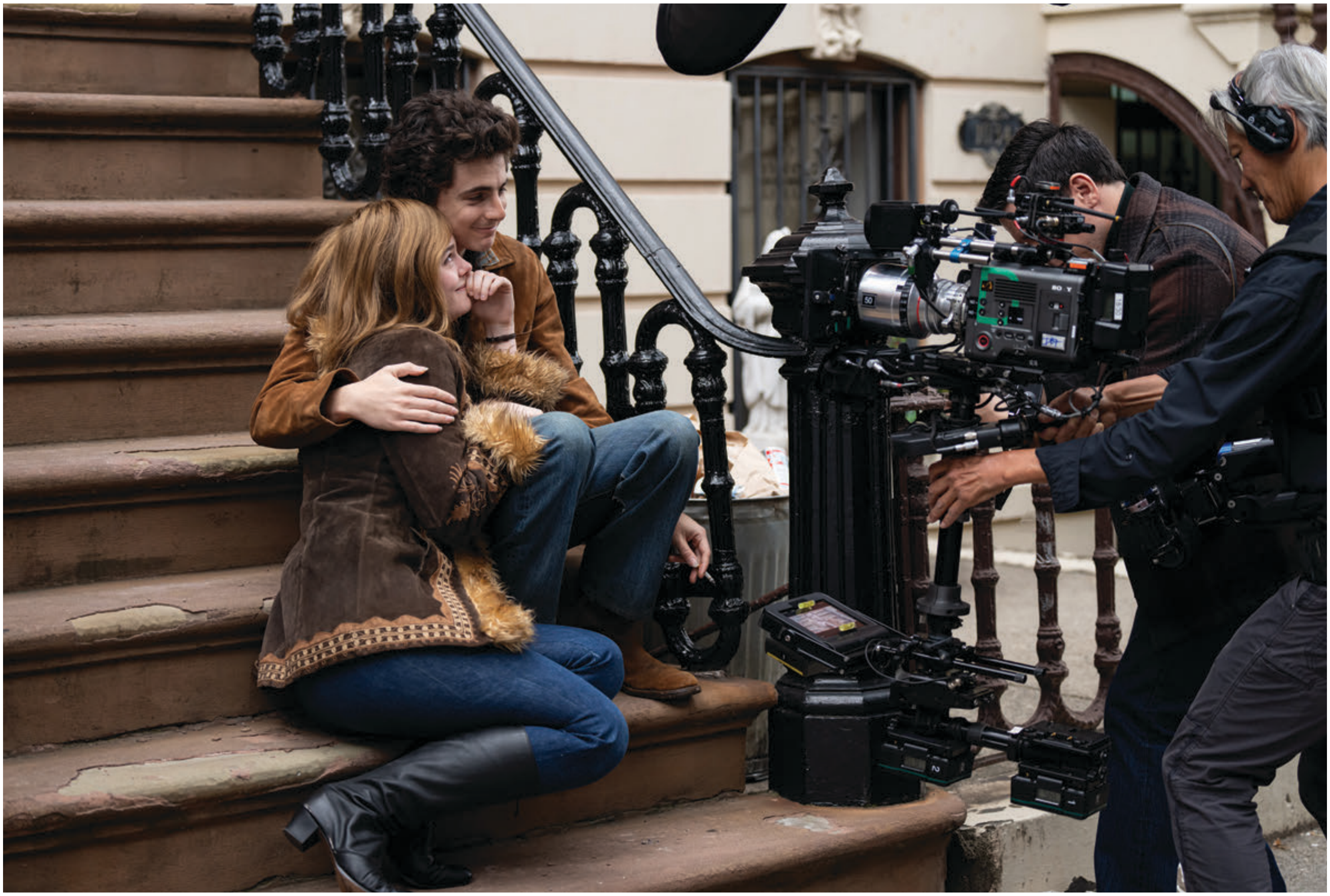
Yes, we very much like to think single-camera and we tell our stories that way, even our big action scenes. But, of course, for covering the music performances, and also because we had limited time with the extras, it just made sense to add additional cameras for the concerts on the initial wide set-ups. We never had more than three cameras, one of them on a 50-foot [telescopic crane] moving in and out from wide into extreme close-up, at which point it would contaminate the other two cameras. Once we moved into closer coverage onstage with the performers, we were blessed to have Scott Sakamoto, our great collaborator on so many films, discover shots for us on Steadicam. He's a very instinctive, intuitive operator and he got to roam and create shots during the performances. At that point, we used the other two cameras to cover crowd reactions.

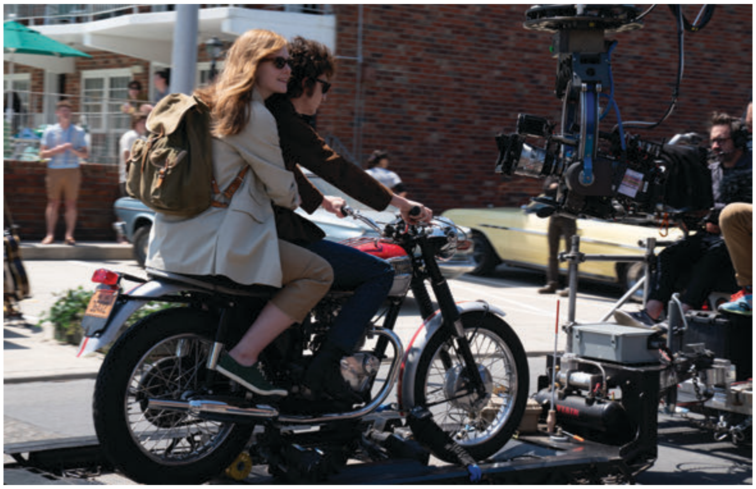
Top: Sakamoto captures an over-the-shoulder as Norton's Seeger performs on the steps of a courthouse, while Papamichael and 1st AD Doug Torres (far right) observe. Above: A frame from the scene, which also features Eriko Hatsune as Toshi Seeger.

How did it feel to wrap another feature about an iconic American musician?

I was always happy to get up and go to work, even if it meant driving to New Jersey at 6 a.m., and I would also come home satisfied every day, always inspired by our cast. Also, this is the first time in a while I would get up and watch dailies

Tech Specs: 2.39:1
Camera | Sony Venice 2
Lenses | Custom Panavision anamorphic prime





Top: Sakamoto at work on a scene with Chalamet and Elle Fanning, who plays Sylvie Russo. Above: A motorcycle process shot for a sequence featuring Dylan and Russo. Bottom right: A frame depicting the romantic partners en route to the fateful 1965 Newport Folk Festival.

— not to check the footage, but just because I would be excited to watch the performances. I've been very lucky in my career, and I feel like I'm still managing to work on movies that I would pay money to see in a theater. That's always been my criterion for taking on a new film.

Watch our Clubhouse Conversations interview with the cinematographer here:

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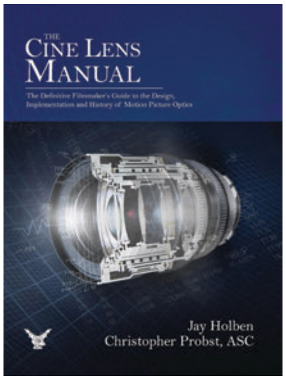
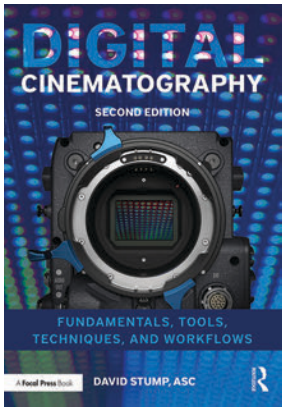

The Cine Lens Manual
The Definitive Filmmaker's Guide to the Design, Implementation and History of Motion Picture Optics
Jay Holben
Christopher Probst, ASC

THE CINE LENS MANUAL
Detailing 300 lens families, this uniquely comprehensive hardback reference was written by Jay Holben and Christopher Probst, ASC for all individuals with an interest in motion-picture optics — cinematographers, directors, visual-effects artists, camera assistants, animators, technical journalists, historians, students, instructors, rental-house technicians. Its 836 pages cover 140 years of cinema lens history, filled with 1,500 full-color illustrations including photographs, diagrams, and graphics.


DIGITAL
CINEMATOGRAPHY
SECOND EDITION
FUNDAMENTALS, TOOLS, TECHNIQUES, AND WORKFLOWS
A Focal Press Book
DAVID STUMP, ASC
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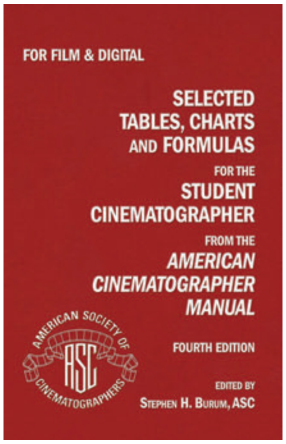
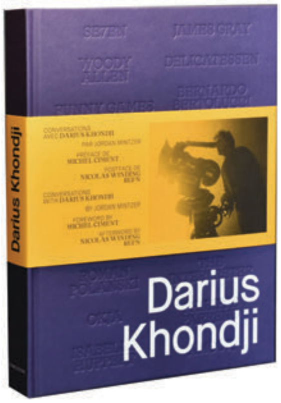
DIGITAL CINEMATOGRAPHY: FUNDAMENTALS, TOOLS, TECHNIQUES, AND WORKFLOWS
Today's successful cinematographer must be equal parts artist, technician, and businessperson. This book empowers the reader to correctly choose the appropriate camera and workflow for their project from today's incredibly varied options, as well as understand the ins and outs of implementing those options. Veteran ASC cinematographer David Stump, ASC has updated this second edition with the latest technology for cameras, lenses, and recorders, as well as included a new section on future cinematographic trends.


FOR FILM & DIGITAL
SELECTED TABLES, CHARTS AND FORMULAS
FOR THE STUDENT CINEMATOGRAPHER
FROM THE AMERICAN CINEMATOGRAPHER MANUAL
AMERICAN SOCIETY OF CINEMATOGRAPHERS
ASC
FOURTH EDITION
EDITED BY STEPHEN H. BURUM, ASC

SELECTED TABLES, CHARTS AND FORMULAS FOR THE STUDENT CINEMATOGRAPHER
This 154-page excerpt from the *American Cinematographer Manual* was designed for student filmmakers and updated to include key aspects of digital cinematography. Edited by Academy Award-nominated cinematographer Stephen H. Burum, ASC, it covers basic cinematographic principles and includes the actual tables, charts and formulas used by professional cinematographers. Other chapters from the *AC Manual* that are most relevant to student filmmakers are also included.

Our First 100 Years
presented by the members of the American Society of Cinematographers

OUR FIRST 100 YEARS
This album-size 204-page hardback book chronicles the history of the American Society of Cinematographers in celebration of the organization's centennial (1919-2019), with profiles on its 15 founders and many outstanding members who have photographed classic feature films, television shows and other motion-picture projects. Illustrated with hundreds of behind-the-scenes images — restored by Charlie Lieberman, ASC and printed in duotone for exceptional image quality — *Our First 100 Years* details the artistic influences, creative collaborations and technologies that helped shape the past century of motion-picture history.


Darius Khondji
Darius Khondji

CONVERSATIONS WITH DARIUS KHONDJI
This is one of the only books of its kind to be fully devoted to the life and work of a cinematographer, offering a journey through the past 50 years of cinema with one of the greatest directors of photography who helped revolutionize the art form through his work on both Hollywood films and art-house movies in Europe and Asia. Darius Khondji, ASC, AFC has shot films for many of the greatest directors in contemporary cinema, including David Fincher (*Seven*), Bernardo Bertolucci (*Stealing Beauty*), Jean-Pierre Jeunet & Marc Caro (*Delicatessen, The City of Lost Children*), Bong Joon-ho (*Okja*) and Nicolas Winding Refn (*Too Old to Die Young*).

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La Divina: *Maria*

Ed Lachman, ASC reteams with director Pablo Larraín to explore the mindset and memories of an opera icon.

By Rachael K. Bosley

Pablo Larraín's *Maria* offered director of photography Ed Lachman, ASC a window onto a world he'd never considered before: opera. The story follows renowned coloratura Maria Callas (Angelina Jolie) as she dwells in seclusion in Paris years after stepping away from the stage. Beset by illness, she ruminates on the past, recalling lifelong personal hardship, fading professional acclaim and rare moments of happiness.

Larraín and Lachman embarked on *Maria* shortly after wrapping the satirical horror film *El Conde* (*AC* Nov. '23), which brought Lachman his third Oscar nomination and fourth ASC Award nomination. Production was based at Origo Studios in Budapest, and Lachman worked with a

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mostly Hungarian and German crew. Filming involved practical locations in Paris (for Paris exteriors), Athens (Aristotle Onassis' yacht), Budapest (Paris interiors) and Milan (La Scala).

Lachman discussed *Maria* with *AC* shortly before the film had its U.S. premiere at the New York Film Festival.

***American Cinematographer*: What did you feel you had to learn about opera to tell this story?**

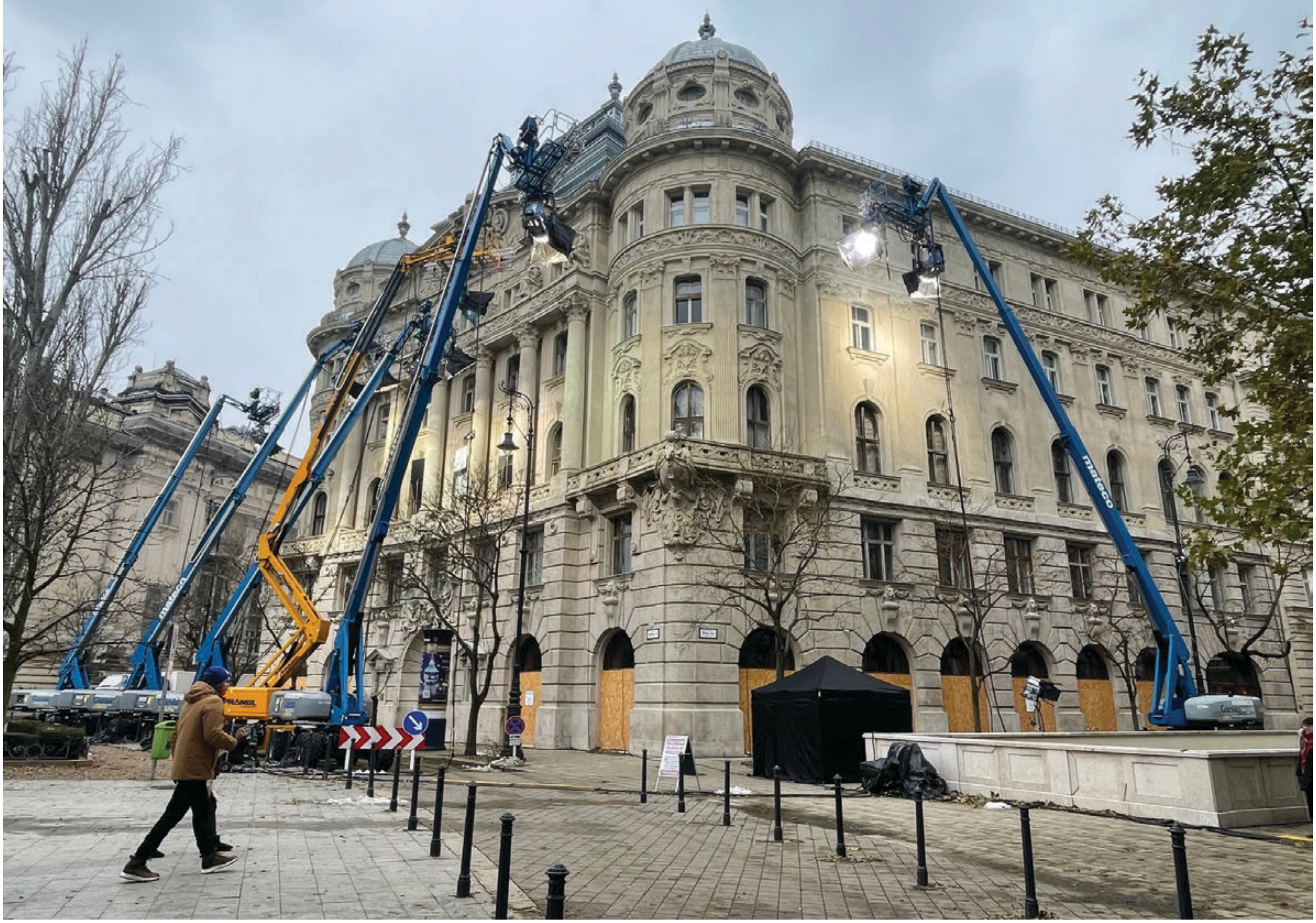
Ed Lachman, ASC: I'd been to a few operas, but I'm by no means an aficionado. Pablo was my way in. What I became interested in was exploring what's similar or dissimilar between opera and cinema, and I found there were a lot of ways I could connect the two. That was the revelation.

What were some of those parallels?

How an audience views an opera can be compared to the way an audience views a film. The audience participates with the images, and they're also creating images from the music and text. Pablo chose an observational, reflective style of camerawork, these moving-proscenium kind of shots with wider-angle lenses, and I think that invites the audience to piece together the relationships in Maria's world for themselves. Also, the way I used mixed color temperatures and color gels is very similar to the mannered, theatrical way opera is staged; it helps reinforce and immerse the audience in a heightened sense of reality. In her life, the sets and locations were like a theatrical backdrop for her world. Her bed is oversized and grand, and you accept it somehow. I always wanted the

ARRICAM 300/1000

Opposite: Opera diva Maria Callas (Angelina Jolie) basks in audience adulation at La Scala during her peak years as a performer. This page, top: Later in her life, the reclusive Callas listens to music at home. Above: Director Pablo Larraín (far left) and cinematographer Ed Lachman, ASC (at camera) set up a shot on the show's bedroom set.



Top: Lifts support lights aimed at the exterior of the Budapest apartment building where production designer Deborah Jensen and her crew built the Callas apartment set. Bottom: More units light the rear portion of the apartment.

light in her apartment to feel like it *could* be a source, but then I heighten that reality in color and contrast, making it more expressionistic, almost like a Douglas Sirk film. It's not the neo-Gothic chiaroscuro of *El Conde*, but something more open, in a sense. I wanted to feel a softer, feminine palette.

The juxtaposition of warm tones in her apartment and cool ones entering the space from outside is quite pronounced.

I think of the warmer colors as her nest, her way of protecting herself against the deluge of what she experiences from the outside world. The adoration and love Maria Callas received in her public life were things she never had in her personal life, and the stage was her refuge, so when she lost her voice, I think she lost her ability to survive. I wanted an element of color to be an intrusion or invasion. When I lived in Paris, there was always a green neon light near where I was staying, and that was always in my mind. I played with green as some kind of artificial light that's abrasive and an intrusion against her warm environment.

Was your desire to do that what led you to shoot film? In the past, you've noted digital's shortcomings in terms of mixing colors in the frame.

There are a few reasons we didn't shoot digitally. I do believe the way negative sees color is different than the way digital sees color, especially when you're mixing colors the way I do. I think of it this way: Film is like oil paint, and digital is like watercolor in that it's harder to mix colors. If you're shooting in tungsten at 3,200 Kelvin and you have daylight blue coming in the window and you warm up the lights inside, you get the blue and the warm digitally separated on the sensor, but with film, those areas cross-contaminate and create a third color, and that mixture of color gives the image depth. In film, also, the grain changes in each frame with the exposure, with fine grain in the highlights and larger grain in the shadows and underexposed areas. In digital, the noise or so-called 'grain' is pixel-fixated electronically on a flat chip that doesn't have the random grain structure of film or the RGB layers that display a depth between the layers, like an etching, when exposed. Some people open up to wide apertures thinking the out-of-focus digital feels like

grain, but I don't experience it that way.

Another reason we thought it was important to shoot on film was that all of the documentation of Maria Callas was shot on film, and we wanted this to look like something that could have been made about her at the time. The documentary crew that interviews her is shooting Super 16, and we shot those scenes on Super 16 with an Arri 416 [paired with a Cooke Varokinetal 10.4-52mm or 10-30mm Varopanchro zoom] as the objective camera and my own Aaton LTR as the camera you see them using. When we talked about what camera they should use, Pablo said, 'We'll get an Arri [16]BL,' and I said, '*What*? In France at that time it would've been the Aaton LTR.' Then I showed him a picture of Godard with an Aaton on his shoulder. [*Laughs*.] I took my Aaton out of storage, cleaned it, and it still ran perfectly. For all the home-movie footage, we shot Super 8 with the [Pro8mm Classic] Pro8 and the new Kodak Super 8 camera [paired with a Schneider Kreuznach Beaulieu Optivaron 6-66mm *f*/1.8 or Angénieux 8-64mm *f*/1.9 zoom].

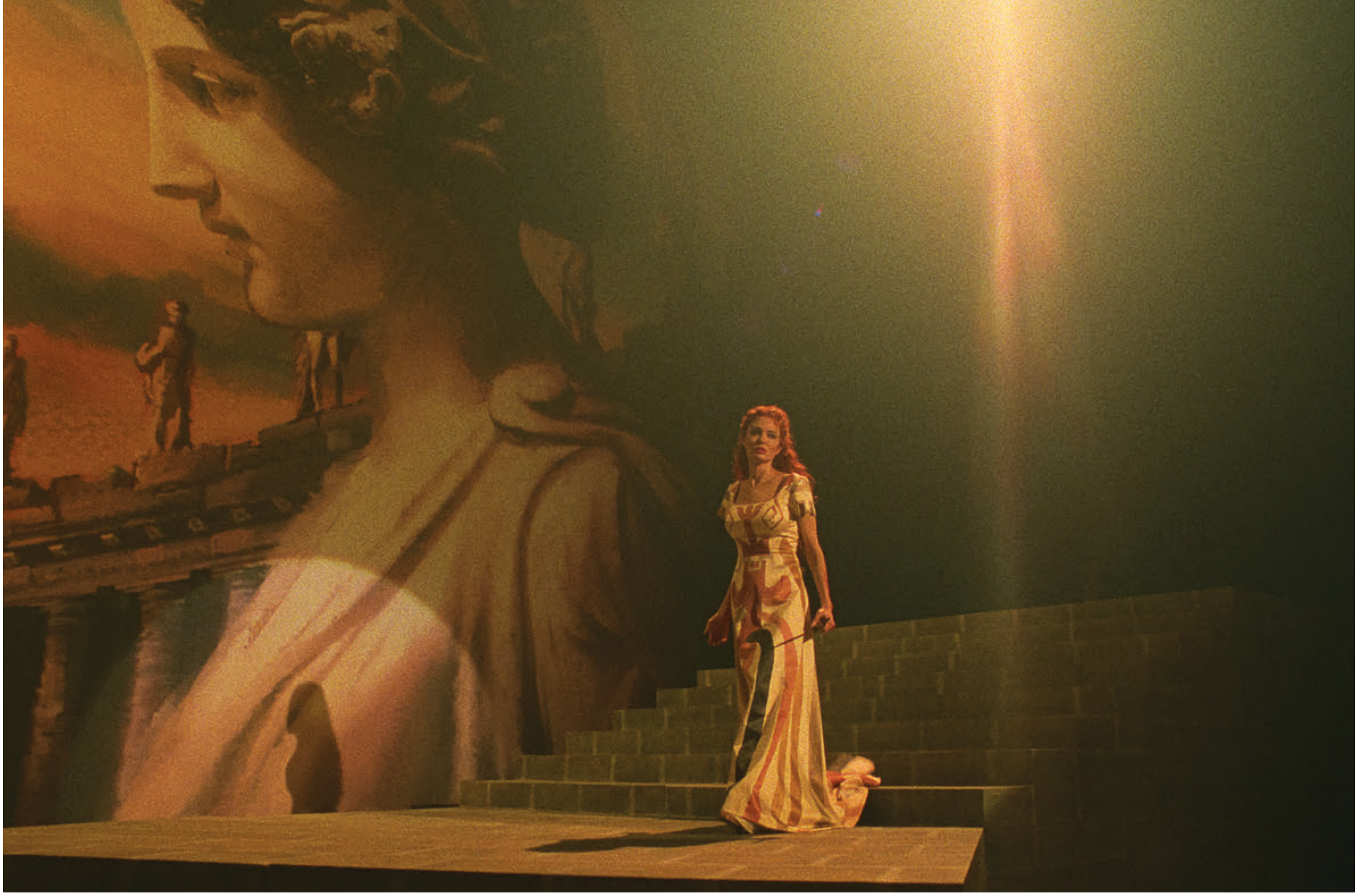
Our film stocks were Kodak Vision3 50D [5203/7203], 250D [5207/7207], 500T [5219/7219] and Eastman Double-X 5222.

I love the results of shooting film, but it becomes harder and harder. We were shooting several different stocks, and I had to place orders every week, with the film trucked in from London to avoid sending it through airport scanners. There's also the issue of dailies. Directors accustomed to getting DIT-corrected dailies immediately on set can become frustrated with the film-dailies process, where the negative goes to a post facility and is transferred and color-corrected without your eye being there. With film, you're not always seeing what you're getting until the cinematographer does the final color-correct. It also can be difficult to find entry-level technicians in the camera department who are trained to load film and keep camera reports and records. We were fortunate to have excellent technicians in Hungary that knew how to handle film, and a very good lab in Budapest, the National Film Institute Filmlab, to process the negative.

How did you approach the location that served as Maria's apartment?

Everything we shot was a location or something we built in a real location, and that was an incredible turn-of-the-century apartment

From top: A cool room tone emphasizes Callas' isolation; the singer is emotionally supported by her servant Bruna (Alba Rohrwacher); window light lends a melancholic feel to a moment of reflection.



Above: Callas gives a dynamic performance in *Medea*. Below: The aging star attempts to recapture some glamour.

building in Budapest that was being renovated. It was stripped down to bare walls, and we were given access to the whole building. There was a large interior courtyard, her apartment was on one side of it, and I basically lit through her windows from across the courtyard with Arri SkyPanel Xs for her dressing room and makeup area, and from the street side of the building with Arri 18Ks. We were one of the first productions to use the SkyPanel X, and those allowed me to play with color temperature, which was great. We were in her apartment over a number of days, and to establish different times of day, we varied the lights' position on the cranes and used gels on the 18Ks to shift the color temperature.

Using focal lengths from 15mm to 28mm on my Ultra Baltars to create an observational camera, we had to light from the exterior and over chandeliers for ambient light exposure. There was no place to hide lights inside. Sometimes I'd cluster two or four China balls above a chandelier, hoping Pablo wouldn't go higher with the camera. [*Laughs.*] Arri Rental is a major supplier in Budapest, and we had access to all the gear we needed because there wasn't much production at the time because of Covid. In fact, I've never had so many lights! I was usually prelighting two locations.

We see her performing in a variety of venues, in addition to the opera excerpts that are staged out in the real world as she imagines them.

Yes, the number of theaters and locations we had to shoot in, and the need to stylize the looks of the different operas, made the project very ambitious. As much as I could, I worked with the house lighting in the theaters, implemented it, and bounced our lights into the ceiling to bring up the ambient light level for the audience. The hardest sequence was her performance at La Scala. It was very important to Pablo to shoot there because La Scala was so pivotal in her career, but it was incredibly expensive, and everything had to be prepped, shot and removed in four hours. We lit the stage with their stage lighting and board, with their technicians, and they let us bring in a 4,000-watt Robert Juliat Lancelot followspot, as well as some PAR cans that we bounced into the ceiling to bring up the ambient light level for the house. With marks on the balcony, everybody in the crew knew exactly where they would place the lights before we got in there. I shot with [T2] Cooke S4s because I didn't know until I got in there whether I'd need the extra half stop. The [T2.3] Ultra Baltars I developed for *El Conde* were our main lenses; Pablo loved the way the glass looked on that film, so we stayed with them. I only used the Cookes when I needed the extra stop for the film negative, which wasn't often. One instance is the night exterior where Maria is walking with Ferruccio [Pierfrancesco Favino] and gets into her limo. I was shooting

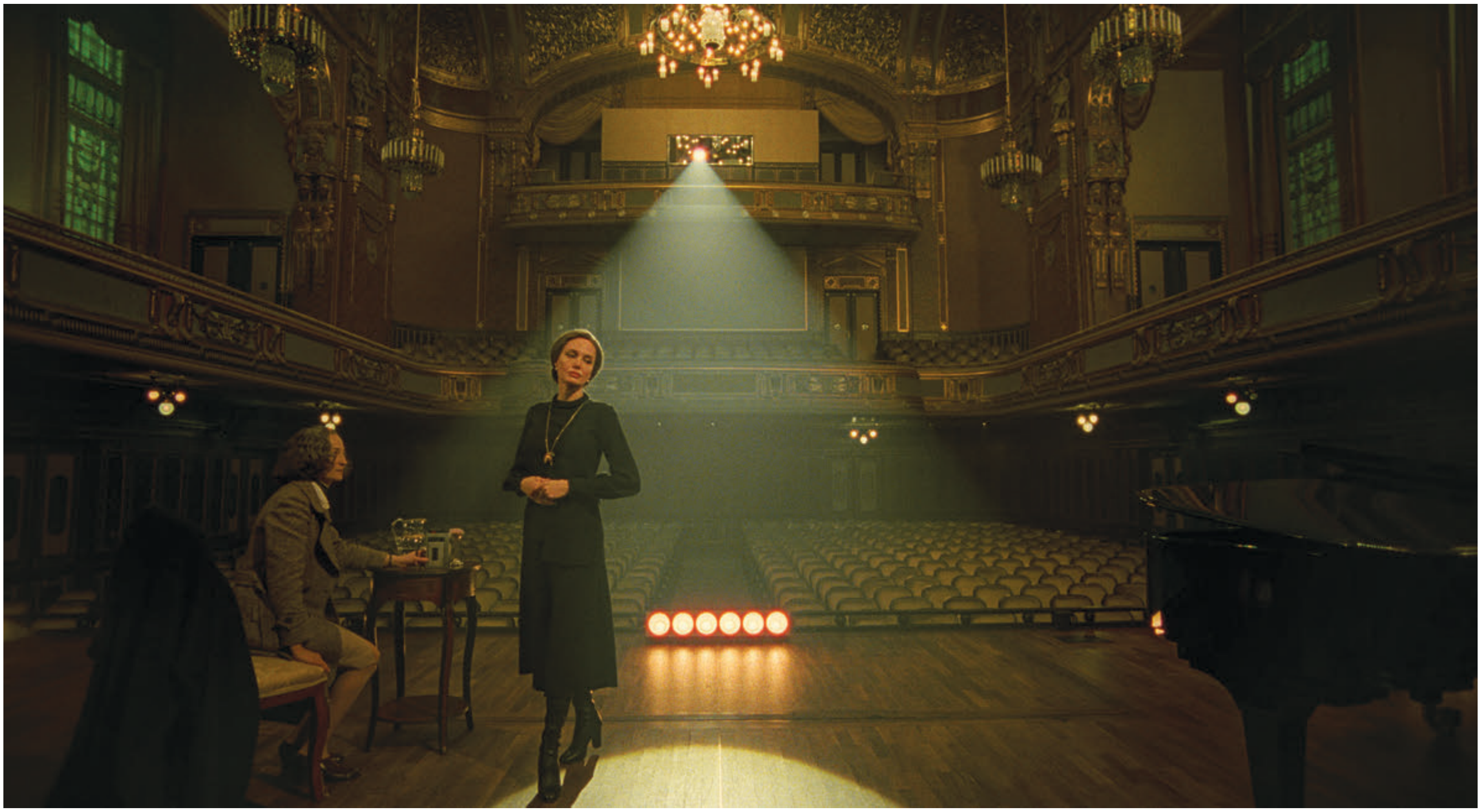
5219, push-processing it to [ISO] 1,000 but rating it at 500 because I wanted a dense negative for color saturation to express Paris at night in the '70s.

How did you approach the *Madame Butterfly* sequence that's staged out in the rain at dusk?

Rain was always scripted, so we created the rain. I hadn't anticipated in the beginning that it would end up at night, but, fortunately, the night before, I decided we should have a crane with a light because of the short winter days we were in. That morning, I told production to get a crane, but I didn't anticipate it would take all day to get a permit and drive it across town. It arrived maybe 30 minutes before it turned totally dark. In the end, the light created a dramatic scene that I wouldn't have had

From top: Callas feels a spark when she meets business magnate Aristotle Onassis at a lavish party; paper lanterns lend additional ambience to a portion of the party space; Callas has a power lunch with U.S. President John F. Kennedy.

Tech Specs: 1.85:1, 1.66:1, 1.37:1
3-perf Super 35, Super 16, Super 8
Cameras | Arricam (3-perf) ST, Arriflex 416, Kodak Super 8, Pro8mm Classic Pro 8
Lenses | 35mm: Ultra Baltar, Cooke S4 || Super 16: Cooke Varokinetal and Varopanchro || Super 8: Schneider Kreuznach Beaulieu Optivaron
Film Stocks | Kodak Vision3 50D 5203/7203, 250D 5207/7207, 500T 5219/7219, Eastman Double-X 5222



Above: Callas prepares to rehearse for a comeback performance. Below: She meets with a physician in her apartment.

otherwise. We also used the Ultra Baltars with 5219 pushed one stop.

Was the scene where the men on the Trocadéro suddenly turn and begin singing to Maria always intended to be shot in backlight?

That's just where the sun was. [*Laughs*.] That's the fun thing about working with Pablo: He's in the moment with the camera, and I'm in the moment with the camera *and* the light, so I try to work off of what's there. We do a lot of research, but then we work off the moment.

How did the two of you work out camera moves? And was it a single-camera shoot?

It was. Pablo thinks in single camera. Working off a telescoping crane on *El Conde* really worked out timewise — you can be very agile in finding the shot — and we decided to do it again. We used a Supertechno 15 and a Scorpio 45, and the Supertechno became an advantage to us in Maria's apartment, which was a large space. Pablo likes to move the camera. We'd discuss shots, but really, it was kind of in the moment. I had to imagine what the camera was going to do when I lit the scenes before he arrived on set. We also had a wonderful Chilean Steadicam operator, Diego Miranda, who lives in Mexico City but works around the world. There's a considerable amount of Steadicam, but you wouldn't necessarily notice. The black-and-white flashback where Maria meets Onassis [Haluk Bilginer] at the party was almost all Steadicam, with some crane work, and it's seamless. Diego also filmed the *Madame Butterfly* scene.

Does Pablo like to rehearse?

More or less we rehearse in the scene. We might work on the physicality, like 'Move from A to B,' but we didn't want to over-rehearse the scene for the actors.

Did Pablo's choice to operate surprise you? You did your own operating for many years.

In my career, as the films got bigger, there were more demands made

on me, so I started working more with operators, who were great. Pablo studied photography, and at one point he was going to be a cinematographer. He loves operating more and more, and he has an innate talent as an operator and in setting up the shot. On this, especially because of the music and his affection for opera, I felt he had a real connection to the images. I would give him notes about a move or the rhythm with the timing. I always say images have a rhythm the way music has a rhythm, the way it moves from A to B. That's a very personal thing. The way I feel about a move might be different than he does, but he is the director and he was my operator, so we had to work it out together. For me, operating is all-consuming — without having to direct also — so I would remind him how we could look at a scene visually even if he told me I didn't have to. [*Laughs*.]

Did you discuss or reference many other films about music or musical artists in prep?

I looked at several documentaries about Maria Callas' life, and I looked at films by filmmakers who've used women as a catalyst for the ideas they're expressing about society of the time: Mizoguchi, Ophüls, Sirk, Cukor, Fassbinder and Almodóvar. For camera movement, I looked at Ophüls' *Caught* [shot by Lee Garmes, ASC], *The Earrings of Madame de …* [shot by Christian Matras]; Fellini's *Juliet of the Spirits* [shot by Gianni Di Venanzo, AIC]; and Visconti's *Death in Venice* [shot by Pasquale De Santis]. For black-and-white, I looked at Di Venanzo's monochrome work with Fellini and Antonioni, as well as *Le Notti Bianche* [shot by Giuseppe Rotunno, ASC, AIC] and Bob Fosse's *Lenny*, which is brilliantly photographed by Bruce Surtees and has a freedom to it that I love.

How did you approach the theater where Maria meets with the pianist to test her voice?

That was another incredible location in Budapest, and it was complicated to light; I did most of it from the balcony level. For ambience I bounced into the ceiling with Nine-Light Mini-Brutes and PAR cans. I had 5Ks cross-lighting from the front and back of the house for an edge on their faces, and we could turn those on or off as needed. I also put Mini-Brutes in box seats over the doors on either side of the stage and painted them out later. Pablo wanted to be so wide with wider lenses, and that's the only way I could get the light in.

Top: As death approaches, Callas imagines one last performance in her home. Above: Servants Ferruccio (Pierfrancesco Favino) and Bruna discover the fallen icon.

From the stage, a green hallway is visible through the doorway behind her — a nice echo of your use of green as an invasive color.

It just happened that the wall there was green. [*Laughs*.] Even if I wasn't creating it, it was following me. ⭘

Watch our Clubhouse Conversations interview with the cinematographer here:

Drone Cinematography: The Sky's No Limit

Advances in technology have made the collaboration between cinematographers and drone teams more creative than ever.

By Jeff Berlin

Aerial imagery achieved with drones has added a useful tool to the cinematographer's creative arsenal, but the process, which involves close collaboration between directors of photography and drone pilots, evolves constantly with the development of new, more advanced systems.

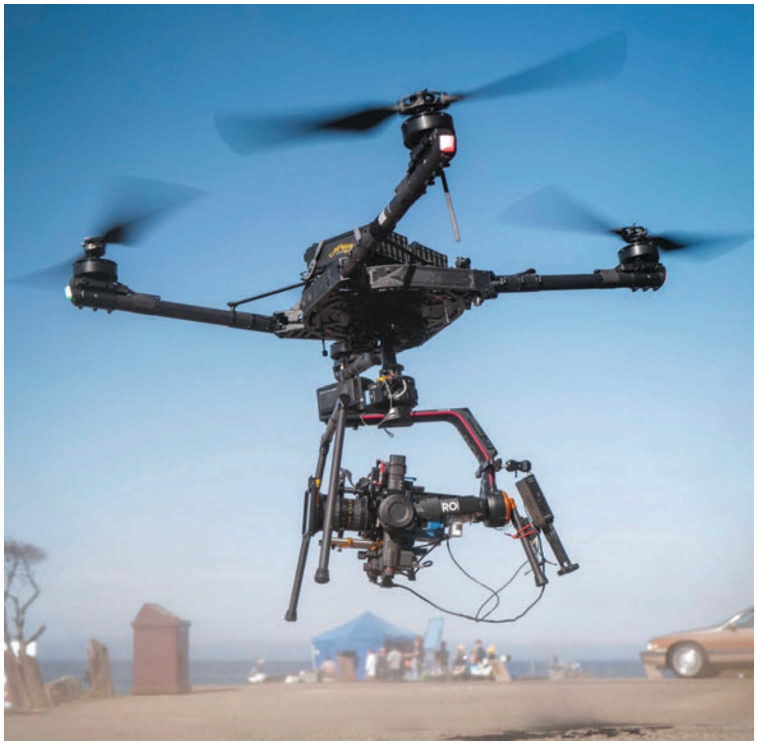
Before the advent of heavy-lift unmanned aerial systems like the Freefly Alta X and Shotover U1 — which can loft an Arri Alexa 35 or Sony Venice without difficulty — and prior to the development of smaller, more agile platforms with integral, high-quality cameras (such as the DJI Inspire series), there were multiple iterations of small, radio-controlled, unmanned devices like the Flying-Cam. A more advanced version of the latter, the Flying-Cam 3.0 SARAH (Special Aerial Response Automatic Helicopter), was introduced in 2012. Configured like a typical full-scale helicopter with a single main rotor and tail rotor, the 3.0 SARAH was a progenitor of today's heavy-lift drones and was sent aloft on numerous films, including *Skyfall, Oblivion* and *Prisoners.*

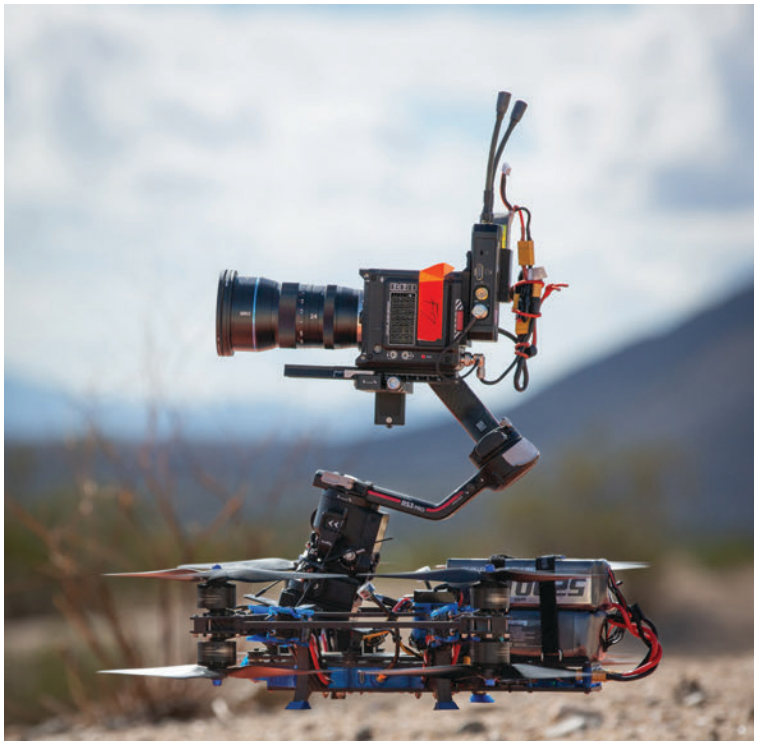
There were some specific benefits to having a single main rotor, like the SARAH, rather than the multi-motors and props we often see today. A single rotor can achieve a higher top speed for a heavier-lift system — and, very importantly, like full-scale helicopters, they are capable of autorotation, which allows the ship to land safely in the event of a power failure. Of course, autorotations are hard enough to fly well when you're onboard in the pilot's seat, but executing the maneuver remotely is very difficult even in the best conditions.

The disadvantages of a single-rotor system are clear: Single-rotor helicopters are inherently unstable, their rotor systems are always more complex than those found on a multirotor system, and they require more sophisticated autopilots to enhance stability. Regardless, the 3.0 SARAH drone system was a major technical achievement that earned Flying-Cam a 2014 Scientific and Technical Award from the Academy of Motion Picture Arts and Sciences.

Back in 2012, when this system was used for the opening sequence of *Skyfall*, operators needed an actual pilot's license to fly it. The Flying-Cam system was also very expensive, hovering around what a small piston-powered, manned chopper would cost: $300,000 or more, even *before* camera gear was mounted.

For *Skyfall,* directed by Sam Mendes and shot by Roger Deakins, ASC,





PHOTOS COURTESY OF BEVERLY HILLS AERIALS.

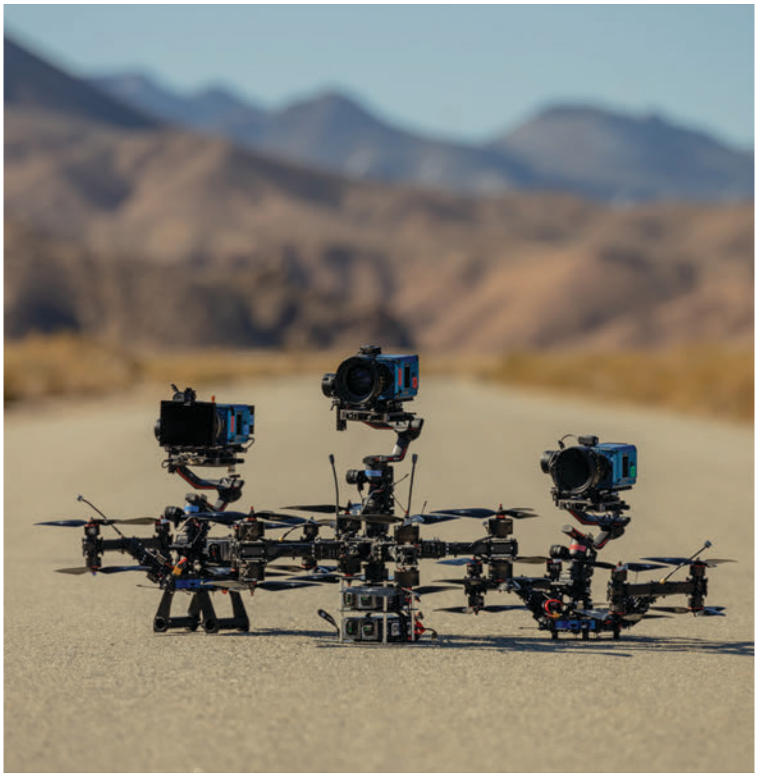
BSC, a Flying-Cam unit mounted with a Red Epic was paired with Zeiss Master Prime lenses to follow actor Daniel Craig, playing superspy James Bond, as he chases a mercenary during a roller-coaster pursuit through the corridors and across the rooftops of Istanbul's Grand Bazaar. The aerial system was able to twist, turn and swoop after Craig, grabbing angles that made the sequence more visceral and compelling for the audience. It afforded Mendes and Deakins camera positions and angles that would have otherwise been impossible with an actual helicopter, crane, cable-cam or any other support system.

In its day, the Flying-Cam system represented a disruptive revolution, but today, the multirotor design is now the preferred configuration for most drones that fly cinema cameras. Multirotors are inherently more stable and have more redundancy, they are less complex and much easier to fly, and the cost barrier to entry is much more accessible. And while drones allowed Mendes and Deakins to break new ground, today they are generally ubiquitous on sets and nearly as common as dollies or cranes. ASC member Nicole Hirsch Whitaker observes, "When drones came into play, it opened up this whole new language where you could do really fun things."

For Whitaker, those "fun things" have included flying a drone under a car. Whitaker recalls, "I did a pilot called *Shining Vale* [*AC* May 2022], shot here in Los Angeles for Warner Bros., and the director and I were trying to think of the most incredible opening shot."

The script for the pilot had a scene where a car drives down a highway, where Whitaker wanted to reveal, in a drone shot, that the location is a rural area. "[A family] is leaving New York City to move to a place in the middle of nowhere, after the wife's had an affair and is struggling with alcoholism," she explains. "So, she and her husband pack up the whole family and go to live in this really small town."

During a conversation with the director, Whitaker suggested it would be cool if it were possible to fly the drone under the car and then climb to reveal the car and landscape. "I called Michael and Caleb [at Beverly Hills Aerials] and at first they said, 'You're crazy. How are we going to do that?'"



Opposite: A Beverly Hills Aerials heavylift-FPV platform designed for speed and large payloads, carrying an Arri 235 and a Laowa 12mm Zero-D lens. This page, top left: An Alta X heavylifter taking flight for a feature-film project, carrying a Red Komodo and an Angenieux Optimo 16-42mm zoom lens. Top right: A small gimbaled-FVP platform designed to carry the Ronin RS3/4 gimbals with a payload of up to 5 lbs., pictured here with a Red Komodo and a Sirui 24mm lightweight anamorphic lens. Above: Three different versions of the gimbaled-FPV platform, carrying Red Komodos with various Cooke Speed Panchro lenses.

PHOTO COURTESY OF NICOLE HIRSCH WHITAKER, ASC.

Top: Nicole Hirsch Whitaker, ASC on set for an upcoming project. Above: Beverly Hills Aerials director of photography Caleb des Cognets and pilot Michael Izquierdo with the company's heavylift-FPV platform (carrying Sony FX6 and Leica R primes) during production of *Happy Gilmore 2.*

Michael Izquierdo and Caleb des Cognets are, respectively, chief pilot and chief aerial director of photography at the Los Angeles-based company; they are also Whitaker's chosen drone team. Looking back at the car shot, des Cognets remembers, "Nicole wanted a shot that started with the camera pushing along a road up in Griffith Park, very low but with some speed. There's just the quiet ambient noise of birds. Then, suddenly, you hear *vroom* and the car speeds over the drone, which shows the car's undercarriage. Once the car passes over the drone and leaves the frame, the camera flies up over trees to reveal the landscape."

After doing a series of tests, the aerial experts came up with a solution to achieve the shot, but it would require a compromise on camera quality, flying either a Komodo (better) or GoPro (smaller) depending upon the distance from the bottom of the car's bumper to the road. Whitaker checked the picture car and reported that it was an SUV with just 7" of clearance underneath. For such a tight squeeze, the GoPro proved to be the best option. "Michael and I were both on the call sheet that day," des Cognets says, "and we figured there was no way we wouldn't break a couple of drones doing the shot, so we brought eight of these little FPV drones with 5-inch propellers and the latest GoPro rigged on each one. We were ready to sacrifice them all for the shot, but I think we only got knocked out of the air once. We did two or three takes and we got the shot, which looked great."

Whitaker enthuses, "That's what it's all about: putting the camera in a place that people haven't seen before, to really surprise the viewer so they'll go, 'Whoa, that's cool!' Pondering her various collaborations with the Beverly Hills Aerials crew, she adds, "We've had a lot of fun inventing things together."

Whitaker leverages drone technology on tech scouts to help with previs and determine what the right tool will be on the shoot day. "My questions are always, 'What makes more sense logistically? What might be faster? What might get me more height, and what might give me more flexibility?' With a drone, you have so much flexibility. I will bring a drone on a scout, but occasionally, at some locations, it's just too complicated to set up in time. So, if we can't have a drone on the scout, a lot of times we don't even see the shot until the day we're shooting.

"On the other hand, if you set up a crane, sometimes you get super high in the air, and you end up opening a world of hate for the visual-effects team — there are things you just don't want to see. With the drone you could say, 'Let's scoot 100 feet to the right and drop down 100 feet,' without the shot costing production $50,000 — whereas, with a crane, you'd be kind of stuck. Obviously, if you have all the money in the world, you'd have both a crane and a drone on set, and you could use both to get all the shots you want. But sometimes you just don't have that luxury or time. A drone does offer you many more options to do different shots, which is fantastic."

Whitaker gets her drone team involved early in the creative process. "If I'm looking at a script and I can see that there's going to be drone work, I'll immediately reach out to the drone company to talk about the camera and what we can do with the drone versus a crane — because, obviously, there are still limitations with the drone. The first person I reach out to is usually Michael, because he's the person who can tell me if we can actually do the moves we want by flying a drone. But sometimes I reach out to Caleb first because he understands every facet of the aerial production process."

Adds des Cognets, "I like to get in there as early as possible, because it helps tell me not only what aircraft we should be flying to achieve the filmmakers' vision, but also which camera and lenses to use and how we're going to move the camera. The sooner you can open that conversation with your drone team, the better, because it allows them to ensure that whatever nuanced platform is required to achieve the shot is ready to go."

He notes that to advise cinematographers on available equipment and what's possible, he must keep up with any new developments in UAS (unmanned aerial system) technology. "So, much of my job is education, because drone tech is [always] evolving," des Cognets says. "I have to stay on the bleeding edge and keep a lookout for the latest and greatest technology, or an alteration to a platform, that will unlock new creative possibilities. My favorite part of the job really is being a Rolodex of drone information; I'm the guy that asks, 'Hey guys, what's happening

The Latest in Drone Equipment and Services

DJI

DJI recently released the Power Expansion Battery 2000, Goggles N3, a 75mm lens for the Inspire 3, and the RS 4, RS 4 Pro and Focus Pro. The Power Expansion Battery 2000 is a 2-kilowatt-hour extension for the Power 1000. Goggles N3, compatible with the Neo and Avata 2, enables users to enjoy an immersive flight experience from a pilot's perspective, complete with 360-degree flips and rolls. The DL 75mm F1.8 medium telephoto lens is designed for the Inspire 3's Zenmuse X9-Air gimbal camera. The RS 4 stabilizer enables solo cinematographers to easily capture large-scale scenes. The RS 4 Pro flagship stabilizer combines stabilization, transmission, monitoring, focusing and control. The Focus Pro is an independent Automated Manual Focus lens-control system. For more information, visit dji.com.

Freefly

The latest products at Freefly include the Alta X and Astro drones and the Pilot Pro controller. The Alta X folds to half its normal size with the push of a finger; the folding linkages stiffen the booms to ensure low vibration and precise flight characteristics. Training sessions tailored to the Alta X are also available. The Astro platform offers Sony LR1, Pilot Pro, Doodle Labs Radio, RTK, LTE cloud connectivity, mission computer and AuterionOS. The Pilot Pro controller features internal and external hot-swap batteries. It has an internal run time of five hours and a one-hour charge time. Users can tap Freefly's CAD and API to integrate the Pilot Pro into their robotics system. For more information, visit freeflysystems.com.

Flying Monster

New offerings include a Heavy Lift Drone Package, a Light Cinema Package and an FPV Cinelifter. The Heavy Package features the BFD S8 and the Freefly Movi Pro. Users can fly Arri Alexa Mini LF, Sony Venice 2 and Red Helium 8K cameras with zoom lenses, Hawk V-Lite and Panavision G-Series anamorphics, or select PL-mount spherical lenses. The Light Package is designed for the DJI Inspire 3 with X9 Air Gimbal Camera, an 8K-resolution full-frame camera with 18mm, 24mm, 35mm and 50mm lens options. FPV Cinelifters fly the company's in-house Red Komodo cameras. Equipped with either a top- or bottom-mount gimbal, the Cinelifter can accelerate from 0 mph to 100 mph in less than four seconds. For more information, visit monster-drones.com.

LightCraft

LightCraft offers Cinema FPV, Heavy Lift, Heavy FPV and Drone Light services. Capable of speeds up to 120 mph, the FPV platform is best suited to covering large distances quickly and flying close to subjects. Recent Cinema FPV clients have included the productions *Ambulance* and *Gran Turismo*. Heavy Lift drones, designed to fly large cinema cameras for longer periods of time, have been used on such productions as *Emancipation* and *Ferrari*. Heavy FPV (or Gimbal FPV) combines the speed and maneuverability of an FPV with the horizon-locking stability of a three-axis gimbal. LightCraft has created several configurations for flying lights on drones, aka Drone Light. System recommendations are based on the creative needs. For more information, visit lightcraft.tv.

Helinet

Helinet's drone services comprise the DJI Inspire 2, Freefly Alta 8, BFD Systems GD-40 and the Shotover U2. Inspire 2 features a Zenmuse X7 gimbal and a flight time of 16-20 minutes; Alta 8 features a Freefly Movi Pro gimbal and a flight time of 12-14 minutes; GD-40 features Phoenix Ranger LR LiDAR and a flight time of 14 minutes, and U2 features a Shotover G1 gimbal and a flight time of 10-25 minutes. For more information, visit helinet.com.

Helicopter Film Services

Helicopter Film Services currently offers seven drone options: HFS Titan; FPV; DJI Inspire 2, Inspire 3 and Mavic; and Freefly Alta X and Alta 8. The "super heavy lift" Titan is capable of payloads up to 44 pounds and can fly the Arri Rental Alexa 65 with primes and the Alexa Mini LF with Fujinon Premista zooms. The FPV can fly with a fixed camera or a hybrid gimbal and accommodates a variety of cameras. Inspire 2 features the Zenmuse X7. Inspire 3 features the Zenmuse X9. At less than 9 ounces, Mavic is a compact option. The Alta 8 is capable of payloads up to 20 pounds. The Alta X flies on two batteries and is capable of payloads up to 35 pounds. For more information, visit helicopterfilmservices.com.

— AC *Staff*

in the scene, and what do you want the drone shot to do for the scene?'"

Des Cognets will suggest drone-platform options that can carry specific kinds of cameras or lenses, so the drone can then "do this or that, and go from here to there. We can even catch the drone and [continue a shot]. It's really exciting for me to show filmmakers a new way to move the camera, or maybe in a way they haven't thought of before." However, he adds that his personal philosophy on camera movement is very traditional. "When it comes to aerials — and drones, specifically — I don't think it's any different than any other camera platform or tool: Less is almost always more."

Determining which drones can fly with specific camera and lens packages, des Cognets says, "comes down to what your priorities are as a cinematographer. Are your priorities maximum resolution for VFX and a clean image? Or are your priorities to move the camera as fast as possible and less about resolution or beautiful glass? Or are you trying to specifically match the look of the cameras and lenses you're shooting with on the ground? Once you dial that in as a cinematographer or director, your priorities will help steer us toward the right platform to fly. Concessions sometimes need to be made once you decide what your priorities are, because you can't have a Sony Venice with Cooke anamorphics on an FPV drone that goes 65 miles an hour chasing a car and then flies right up to the talent's face — that's just not going to happen. We do have larger FPV drones that can fly an Alexa Mini with lightweight anamorphic lenses, but you're still not going to get super-close to talent. But if we went to a Red Komodo or a Sony FX6 — two-pound camera bodies with some lightweight, rehoused still-photo glass, where you have a lighter lens that still is similar to the look of your project —you can get close to what you want as far as quality and look, but on a much smaller

Top: Beverly Hills Aerials 1st AC and aerial cinematographer Majd Mazin swapping Arri Signature Primes on the helipad of a downtown Los Angeles skyscraper during production of a television show. Above: A Sony FX6 and Canon FD 20mm lens on a cinema-FPV platform enabled a one-take Kawasaki commercial featuring motocross rider Axell Hodges.

platform that allows you to do more things, and safely. By defining your No. 1, 2 and 3 priorities, in that order, we can narrow down what will work for the shot."

For Whitaker, close collaboration between a show's director of photography and aerial cinematographer is key. "If I'm lucky enough to be on a production where we can have prep time with the drone pilot and DP before we scout, the best plan, for me, is to have a meeting, do a director scout with the drone team, and talk about what we can do. It's important to find out from them what we can do and what's safe, because safety is so important with drones. First, though, we'll have a creative conversation and discuss what the director and I are looking for, and a lot of times [the aerials team] will come up with something even more interesting than we thought of. They're our camera operator in the sky."

Des Cognets adds, "It always starts with a conversation over the phone. We'll give our thoughts based off a storyboard, or what have you. From there, [the process] usually culminates in a scout on location with a pilot who [fields questions from] the cinematographer about camera and lens options."

On the day, he continues, "the first take usually tells you a lot about what's going to work and what won't. I like to try to get into the cinematographer's and director's minds as much as I can before that first take, so I have a very clear vision of what they're going for. And after that first take, if it doesn't feel to me like we got what they wanted — usually before they even tell me, 'Hey, you need to go a little faster,' [or something else] — I'm already telling my pilot, 'Back to one, and for this next take, I want you to go 20-percent faster,' or 'I want you to drop a little bit sooner after that tree.' There's a lot of back-and-forth with the DP and director."

Des Cognets views his collaboration with cinematographers as a more advisory role, making suggestions and steering them in the right direction in terms of what's possible or feasible — always with tact. If he doesn't think a particular approach is working, "I'll usually say, 'I love that idea, but how about this?'" He'll typically make suggestions about the specifics of a shot, based on his knowledge of "the mechanics of the way the drone moves, or what looks best and doesn't feel jarring — unless 'jarring' is what they're going for.

"I'll often hear that the cinematographer and director just want to use the drone for a 'drone shot' — something we've seen a million times. There's still purpose to that, and a lot of our work does [involve shooting] establishing [shots]. But I think it's cool when cinematographers and directors are open to the idea of establishing [a scene] in a way they haven't thought of before. Instead of just staying high and wide and doing a shot like it's a sky dolly, we're coming into the scene and arriving somewhere — perhaps down to the ground and the talent."

As FPVs are maturing, the quality of the cameras they can fly is also improving. Whitaker thinks FPVs are "fantastic" — adding, "They're obviously [designed] for a certain purpose, but you have a lot of flexibility in terms of your verticals and your speed. Caleb and Michael fly them with FX6s and Komodos. And you don't have to put a really expensive film lens on [an FPV]; you can just put something nice on them and do some really good, cool work. The first time I used one was because we needed to have a POV of a superhero running down an alley at 60 miles an hour and then taking off and flying up into the sky, super-fast, over the city of Los Angeles. [We did it with an FPV] and it blew my mind; I'd never seen anything like that before. It was just really exciting."

With FPV drone technology continuing to evolve, des Cognets maintains that there's no other tool that allows a filmmaker to put a camera in the places an FPV can go, or move in the way an FPV can. "You get a completely different feel for the shot," he says. "It has a ton more energy, and you're swooping down and through things." The drone is basically flown fully manual to provide what he calls a "fighter-jet POV." But now, he adds, "things have progressed, and we have a gimbaled FPV, so you have the precision flying capabilities of the FPV drone, [combined] with a remote head that allows the camera operator to [remotely] operate the camera" — a strategy that was previously not possible with FPV drones.

According to des Cognets, the key advantages of a gimbaled FPV platform are that the drone can be flown "faster, lower to the ground, and through smaller gaps than a heavy lift would — and with more precision at higher speeds. It gets very nuanced."

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Profoto | D30, Pro-B3

Profoto has released the D30 monolight and the Pro-B3 battery flash.

The D30 offers mains-powered operation, a fast recycling time, a bi-color LED modeling light and a flash power of 500 watts over 11 f-stops.

The Pro-B3 750-watt battery flash features a heavy-duty casing and offers recycling times ranging from 0.02-2.2 seconds and a flash duration down to 1/75,000s for capturing crisp action shots without motion blur.

For more information, visit profoto.com.

Sony | 2 Solutions

Sony Electronics, Inc., has released the 28-70mm F2 G Master lens and the Alpha 1 II camera.

The 28-70mm G Master is compact (3.6"x5.5") and lightweight (32.3 ounces) and features three extreme-aspherical elements and three aspherical elements that minimize aberrations. A floating focusing system helps maintain internal stability and enables a minimum focusing distance of up to 14.8" throughout the entire zoom range.

Key features of the Alpha 1 II mirrorless camera include Full-Frame Exmor RS stacked CMOS sensor with an approximate effective 50.1 MP; up to 30 fps blackout-free, continuous shooting with AF/AE tracking; AI-based subject-recognition performance; a high-speed, anti-distortion shutter that reduces rolling-shutter effect; and improved optical image stabilization.

For more information, visit electronics.sony.com.

Astera | QuikSpot

Astera has introduced the QuikSpot battery-powered LED fixture.

The zoomable single-source spotlight draws inspiration from the workflow and housing of Astera's AX5 PAR while taking advantage of the optical quality of the Titan LED Engine and the PlutoFresnel. The luminaire offers a zoom range of 13-60 degrees, high color rendering and a homogenized Fresnel optical system. It also offers the option of rotatable eight-way barndoors with integrated SafetyLink.

For more information, visit astera-led.com.

Absen | PR Series with Deepsky

Absen Inc. has announced the Pixel Reality Series with a Deepsky integration.

Deepsky is a processing solution for LED displays that is purely software- and GPU-based. All pixel processing is handled entirely within the screen controller, eliminating the need for processing at the receiver-card level.

AbsenLive's PR Series offers pixel pitches of 1.5-5.2mm. The narrow pixel-pitch options, such as PR1.5, PR1.9 and PR2.5, are ideal for building high-resolution LED backdrops; the higher pixel pitches, including PR3.9 and PR5.2, deliver high brightness, ideal for creating LED ceilings that enhance lighting effects on set.

For more information, visit usabsen.com.

Absen
AbsenLive
Absen

Lightbridge | Tabletop Essentials Kit

Lightbridge has introduced the Tabletop Essentials Kit, designed for creatives of all levels of expertise.

The compact setup includes three 2.75"x2.75" reflectors in Diff 1, 2 and 3; a 5.9"x5.9" Diff 4 reflector; two T-Wheel precision mounts; a cleaning cloth; and the booklet *Small Things That Matter*, an introduction to the Lightbridge system.

For more information, visit thelightbridge.com.

Venus Optics | 2 Laowa Solutions

Venus Optics has introduced the Laowa Sword Macro Full-Frame Cine series and the Laowa Nanomorph 60mm T2.9 1.5x Macro lens.

The Sword Macro FF series comprises 15mm, 25mm, 35mm, 60mm, 100mm and 180mm focal lengths.

The Laowa Nanomorph 60mm offers a close-focus distance of up to 9.45" and a 270-degree focus throw. The lens is available in three flare-color options: amber, blue and silver.

For more information, visit venuslens.net and laowacine.com.

Zhiyun | Crane 4E

Zhiyun has released the Crane 4E stabilizer.

The video-production solution is engineered with extended axis arms and high-torque motors. A built-in horizontal and vertical lock system enables easy side-mounting for vertical shooting. Sling Mode allows for adjustment of the grip's length and direction, facilitating changes in shooting angles and offering a dual-handle mode.

For more information, visit zhiyun-tech.com.

Wooden Camera | Blackmagic Ursa Cine Solutions

Wooden Camera has announced accessories for the Blackmagic Design Ursa Cine 12K/17K camera.

A Top Plate provides an array of mounting points along the top and side of the camera. A Base Plate uses an Arca design to enable quick transitions among studio, shoulder and Steadicam plates. A D-Box and Wedge Plate introduce a Gold Mount Plus battery option and allow the battery to be mounted perpendicular to the camera.

For more information, visit woodencamera.com.

Matthews | Moving-Light Stand Adapter

Matthews Studio Equipment has introduced the Moving Light Stand Adapter “Cotone Mount.”

The solution can support lights up to 250 pounds and is compatible with moving fixtures from Chauvet, Elation, Martin, Robe and others. The mount converts a standard Omega Bracket to a 1-1/8" Jr Pin or 5/8" Baby Receiver. The T-shaped adapter is made of steel and finished in black zinc. Its dual-slotted plate (3.67" min.–11.50" max.) accepts a range of mounting hardware and includes a nut, bolt and washer. The knurled Baby Pin is hard-welded to the apex of the “T” for durability.

For more information, visit msegrip.com.

Trilogy Studios | VP in Dallas

Trilogy Studios has opened a virtual-production facility in Dallas.

The facility features a main volume designed for film and TV productions, a car-process stage, and a small stage tailored for commercials and music videos. Solutions from Brompton Technology and Absen are featured.

For more information, visit trilogystudios.com.

I-D-X
98
150
198

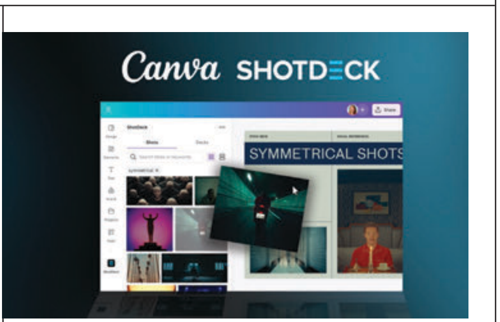
IDX | 2 Solutions

IDX has announced the Cue-J V-mount Li-ion battery series and IDX Traveler Kits.

The Cue-J series comprises the Cue-J98, Cue-J150 and Cue-J198, all of which feature one D-Tap with 80-watt-max output.

IDX Traveler Kits are designed for videographers seeking to lighten their loads on remote locations. They're available in V-Mount and Gold Mount versions and include a battery and USB-C PD charger.

For more information, visit idxtek.com.



Canva | ShotDeck Integration

ShotDeck, a searchable library of high-definition images from movies, television, music videos and commercials, has announced an integration with Canva.

The integration allows Canva users to search for images from ShotDeck directly within the Canva editor; simply type in keywords, and ShotDeck's database will provide a curated selection of images that fit one's needs. Alternatively, if users have already created "decks" of shots within ShotDeck, those folders will be available for users to drag and drop those images into their Canva designs.

For more information, visit canva.com.

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IFootage | Shark Slider Nano II

IFootage has unveiled the Shark Slider Nano II multi-axis camera slider.

The solution features intuitive IPS touchscreen controls, an advanced stabilization system that includes intelligent shake compensation and robust track design, and smart facial-recognition and object-tracking capabilities. The PD3.0 charging port powers the entire system through one Type-C cable. The slider supports loads of up to 15.5 pounds horizontally and 7.75 pounds vertically.

IFootage and DJI have integrated the Shark Slider Nano II with DJI's RS2, RS2 Pro, RS3 Pro, RS4 and RS4 Pro stabilizers.

For more information, visit ifootagegear.com.

RigWheels | Monorail+Conductor

RigWheels and EMotimo have launched the Monorail+Conductor motion-control system.

Powered by EMotimo's Conductor SA2.6, the Monorail can be programmed for up to eight axes. With the camera and gimbal suspended beneath an extendable single rail, the Monorail+Conductor provides smooth, precise camera movement across various settings. Engineered to work with DJI Ronin RS2, RS3 and RS4 Pro gimbals, the Monorail supports a range of camera and lens setups.

For more information, visit rigwheels.com.

Mushang | VFX Lab

The Mushang VFX Lab virtual-production studio has opened in Sydney, Australia.

The facility features Brompton LED processing, ROE Visual screens, Disguise solutions, Stype tracking, Mark Roberts Motion Control Bolt robotic arms, Arri lighting and Sony Venice 2 cameras with Leitz Prime and Cooke Anamorphic FF SF lenses.

For more information, visit mushang.com.au.

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Clubhouse News

Society Welcomes New Members

Katelin Arizmendi, ASC

David Lanzenberg, ASC

Katelin Arizmendi, ASC
A native of Oakland, California, Arizmendi has lived in Brooklyn, New York, for 10 years. She studied experimental film at the University of California, Santa Cruz, focusing on film theory. She earned a master's degree in cinematography at San Francisco's Academy of Art University, where she fell in love with shooting 35mm and 16mm film.

Her first feature credit was the 2018 psychological horror film *Cam*. She received an ASC Spotlight Award nomination and a Camerimage Golden Frog nomination (Cinematographer's Debut) for her second feature, *Swallow*. She then received a major break when Greig Fraser, ASC, ACS brought her aboard *Dune: Part One* as the 2nd-unit and splinter-unit cinematographer.

Arizmendi's feature credits include *Charm City Kings*, which premiered at the 2020 Sundance Film Festival; *Monica*, which premiered at the 2022 Venice Film Festival and earned an Independent Spirit Award nomination; and *National Anthem*, which premiered at SXSW in 2023. Her television credits include episodes of *Succession* Season 4 — including Episode 8, "America Decides," which was directed by Andrij Parekh, ASC and earned him an Emmy nomination.

Arizmendi has also shot music videos for Doja Cat, Machine Gun Kelly and Camila Cabello, 30 Seconds to Mars, and Lil Dicky, among others — and commercials for brands including Google, Burberry, Calvin Klein and Rolex.

David Lanzenberg, ASC
The French cinematographer has shot episodes of *The Morning Show*, *Severance* and *Palm Royale*, as well as Tim Burton's *Wednesday*, for which he received an Emmy nomination.

Lanzenberg came up through the ranks as a camera assistant, working with such ASC cinematographers as Philippe Rousselot, Checco Varese, Aaron Schneider and Daniel Pearl.

Lanzenberg is currently shooting his third season of *The Morning Show*. His credits include the features *In the Shadow of the Moon*, *The Best of Enemies*, *Paper Towns*, *The Signal* and *The Age of Adaline*. The latter was directed by Lee Toland Krieger, with whom Lanzenberg also collaborated on the feature romance *Celeste and Jesse Forever*, as well as the pilots for *Shadow and Bone, Chilling Adventures of Sabrina, You* and *Riverdale*.

His music-video credits include pieces for Lenny Kravitz, Beck, Miley Cyrus, John Legend, Red Hot Chili Peppers and Prince. His commercial work includes spots for Apple, Nike and Hugo Boss.

John Grillo, ASC
After beginning his career as a translator and production assistant on Joe Johnston's *Honey, I Shrunk the Kids*, Grillo transitioned to camera trainee and steadily rose through the ranks to become a full-time cinematographer in 2010.

Born in New York and raised in Acapulco, Grillo studied TV journalism in Mexico City. His graduation project, the short film *Jeffty Is Five*, ignited his passion for filmmaking and led to the job on *Honey, I Shrunk the Kids*, which was shot at Estudios Churubusco.

Grillo joined Local 600 in 1990 and spent much of the decade working as a focus puller on commercials and music videos. His first feature credit in that role was *The Salton Sea*, shot by Amir Mokri. From 2000 to 2020, he worked extensively with Michael Mann, serving as a 1st AC, camera operator and cinematographer.

He has also shot more than 100 hours of television, receiving an ASC Award nomination for *Preacher* and a Primetime Emmy nomination for *Westworld*. His TV credits include *The Terminal List*, *The Morning Show*, *Perry Mason*, *The Mosquito Coast*, *The Leftovers*, *Snowpiercer*, *Luck* and *Tokyo Vice*. Grillo directed three episodes of *Preacher* and is a member of the Directors Guild of America. He lives in Seattle.

Peter Menzies Jr., ASC, ACS
Born in Sydney, Australia, Menzies

John Grillo, ASC

Peter Menzies Jr., ASC, ACS

was introduced to the film industry by his father and namesake, who was also a cinematographer.

After establishing himself as a commercial director of photography in the 1980s, Menzies began shooting features and television projects. His feature credits include *Die Hard With a Vengeance*, *A Time to Kill*, *The General's Daughter*, *Lara Croft: Tomb Raider*, *Miss Congeniality 2: Armed & Fabulous*, *The Great Raid*, *Shooter*, *The Incredible Hulk* (2008), *Clash of the Titans* (2010), *The Expendables 3*, *All Eyez on Me*, *Peter Rabbit* and *Peter Rabbit 2: The Runaway*.

His television credits include the miniseries *The Time Traveler's Wife*, episodes of *The Right Stuff* (2017) and *Roots* (2016), and the telefilms *Close Up*, *Love You to Death* and *The Bad Seed*.

He recently wrapped the feature *The Yellow Tie*, a dramatization of the life of classical musician Sergiu Celibidache, for director Serge Ioan Celebidachi, the musician's son.

Menzies continues to enjoy shooting commercials, and his work in that domain includes spots for ASB Bank, Nokia, Magnum, McDonalds, Southern Comfort and Six Flags Magic Mountain. He has been honored with the Australasian Television Award, the One Club's One Screen prize (for *Rising*, a short film promoting The Ad Council), the London International Award and the Cannes Lion.

He is a member of the Australian Cinematographers Society and the Academy of Motion Picture Arts & Sciences.

Menzies has collaborated with directors such as John Singleton; Simon West; John McTiernan; Roger Donaldson; Joel Schumacher; Louis Leterrier; John Pasquin; John Dahl; Gabriele Muccino; Alex Proyas; and Mikael Salomon, ASC. A keen sailor and sports enthusiast, Menzies is married with three daughters and divides his time between Australia and the United States.

Phedon Papamichael, ASC, GSC with interviewer Dejan Georgevich, ASC at *AC*'s New York screening of *A Complete Unknown*.

Society Members Participate in *AC* Screenings

As part of *American Cinematographer*'s new screening partnerships, ASC members led Q&As for two recent features.

The magazine presented a screening of *Emilia Pérez* (*AC* Nov. '24) at NeueHouse in Los Angeles in a media partnership with Netflix. The post-screening Q&A with Paul Guilhaume, AFC was led by **ASC President Shelly Johnson**.

AC offered a pair of screenings of *A Complete Unknown* (see page 44) in a media partnership with Sony: one at the UTA Screening Room in Los Angeles and another at Roxy Cinema in New York City. Both events included a Q&A with **Phedon Papamichael, ASC, GSC**, with discussions led, respectively, by Johnson in L.A. — which included editors Andrew Buckland and Scott Morris — and **Dejan Georgevich, ASC** in New York.

Wrap Shot

I'm Not There

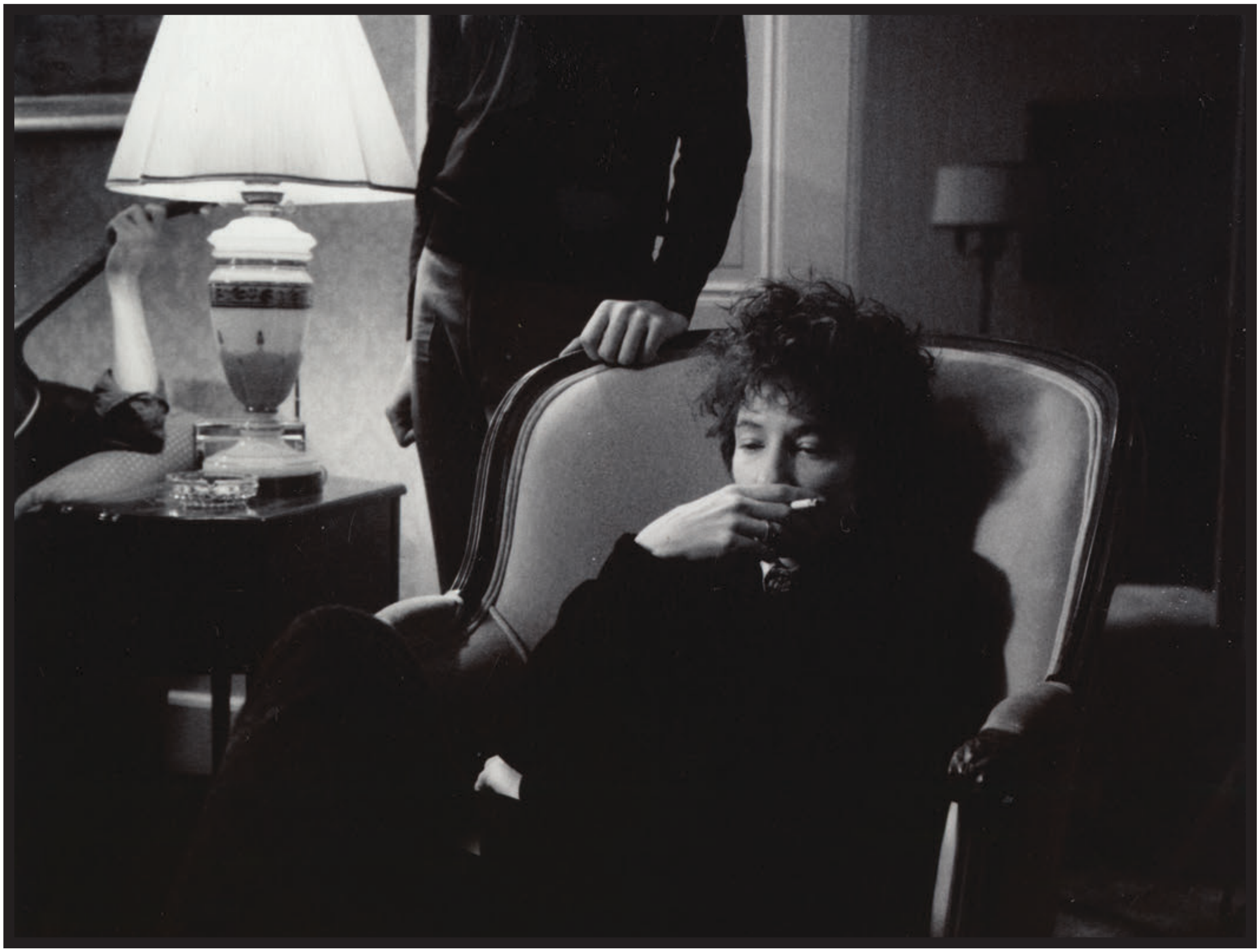

IMAGE COURTESY OF ED LACHMAN, ASC AND THE WEINSTEIN COMPANY.

A Complete Unknown, directed by James Mangold and shot by ASC member Phedon Papamichael (see page 44), presents a stylish and compelling portrait of Bob Dylan, who became an icon of folk music before "going electric" in 1965 and achieving even wider stardom in the world of rock 'n' roll.

Dylan's mystique has been addressed by other filmmakers of note, but one of the most unconventional takes is the 2007 feature *I'm Not There,* directed by Todd Haynes and shot by Ed Lachman, ASC (also covered in this issue, for his work on *Maria*). A prismatic look at various facets of Dylan's persona, the film attempts to capture the essence of a legendary figure who has consistently defied facile assessments of his character. The musician is portrayed by six different actors in various roles, including Cate Blanchett, pictured here playing a rock provocateur called Jude, whose appearance and attitude closely mimic the real Dylan's as presented in D.A. Pennebaker's 1967 documentary *Dont Look Back*.

Lachman notes that this section of the film was chiefly inspired by Federico Fellini's surreal, autobiographical feature *8½*, shot by Gianni di Venanzo and starring Marcello Mastroianni as Fellini-like director Guido Anselmi, who becomes intensely introspective as the pressures of his career begin to mount. "We specifically referenced the opening sequence of *8½*, when [Guido] begins to feel claustrophobic and suffocated as he's caught in a traffic jam," the cinematographer told writer Jon Silberg in the Nov. '07 issue of *AC*. "In our portrayal, we show Jude trapped in a similar situation."

Lachman filmed Jude's story on two Kodak black-and-white stocks, Plus-X 5231 and Double-X 5222, instead of following the trend of shooting in color and converting to black-and-white via printing or digital-intermediate techniques. "By originating on black-and-white emulsion," he asserted, "you're able to maintain a truer black-and-white look than if you shoot on color stock and convert the images to black-and-white."

— *Stephen Pizzello*

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NOSFERATU
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